LAND DEVELOPMENT DIVISION PROCEDURE MANUAL

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

CHAPTER 1

INTRODUCTION

A. Purpose

The purpose of the Building and Safety/Land Development Division Land Development Procedure Manual is to provide information and guidance to employees of the Department and those members of the public that do business with this Division on the responsibilities and the application procedures for various land development approvals required by this division. The Manual establishes policies and design criteria for the preparation of subdivision maps, plans, calculations and reports. It is neither intended as, nor does it establish a legal standard for these functions.

Periodic revisions will be required to keep this Manual current. In the lower left corner is the date that page was published.

B. Manual Contents

This Manual is divided into four parts:

Part I, "Organizations and their Responsibilities," describes the Department of Public Works, Land Development Division and the responsibilities of each of the sections that make up the Land Development Division.

Part II, "Procedures," describes the procedures for filing and obtaining approval of various items: environmental impact reports, geologic site inspections, private drain plan checks, drainage benefit assessment areas, miscellaneous transfer drain plan checks, road plan checks, road zoning requirements, private contract sewer plan checks, hazardous waste reporting, private waste disposal systems, water code enforcement, county capital project plan and report preparation and reviews, dam approvals and inspections, geotechnical inspections and investigations, and the handling of miscellaneous complaints.

Part III, "Minimum Standards and Design Criteria," is designed to satisfy Part II by describing the minimum standards needed for County approval. In addition to the previous described subjects in Part II, it also includes specific standards for specialty items such as, dams, subdrains, detention basins, debris basins, debris carrying drainage facilities, retention basins, and geotechnical reports needed to support the previous mentioned subjects. Also, presented in a chapter devoted to noting the sources of all needed references for performing the functions described in this Manual.

Part IV, "Policy Statements and References," contains the basis for establishing the procedures and design criteria described in this Manual. This includes referencing Federal, State and County Codes and Regulations as they affect the procedures. Also, present are policy documents issued by the Department to clarify the codes and regulations.

CHAPTER 2

DEPARTMENT OF PUBLIC WORKS

Los Angeles County Department of Public Works has many unique functions and programs. Its goal is to "Provide Public Service That Works". There are over thirty-five hundred employees divided into twenty-two Divisions, each serving a separate function of the Department.

CHAPTER 3

BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION

LAND DEVELOPMENT GROUP

Since August 1993 Building and Safety Division and Land Development Division within the Department of Public Works have been merged to become one single division, Building and Safety/Land Development Division. This Division is administrated by the Superintendent of Building and consists of two main groups: Building and Safety Group and Land Development Group. The goal of the Land Development group is to protect the public health and safety by ensuring safe and functional land development. This Group works closely with the Building and Safety Group in building code enforcement, and with the Department of Regional Planning and others on subdivision and zoning codes enforcement. The Group Administration is responsible for providing the Sections with Department policies, coordinating section work assignments, and assigning personnel and establishing Division policy. In addition, the Group reviews proposed legislation, updates the Land Development Division Procedure Manual, reviews and comments on other Department's manuals, comments on other Department's programs, etc. The Group Administration often requests input from the Sections in performing their work assignments.

This Group has three sections: Subdivision Management Section, Subdivision Mapping Section, and Subdivision Plan Checking Section.

CHAPTER 4

DEVELOPMENT MANAGEMENT SECTION

The Development Management Section is responsible for coordinating all Land Development submittals to this Division for review and approval, reviewing tentative maps and processing subdivision bonds. Its goal is to keep the development review process as efficient as possible by reducing review waiting time to a minimum and to provide status information on projects being processed. To perform their assignments, this Section is divided into the following three units:

A. Land Development Processing Center -

The primary purpose of the Processing Center is to be the single drop-off and pick-up point for improvement plans, reports, and maps. The Center is located on the fifth floor at 900 South Fremont Avenue, Alhambra, California, 91803-1331, and can be reached by calling (818) 458-4930.

The duties and responsibilities of the Processing Center are as follows:

1. To insure completeness of plan submittals prior to accepting plans for review.

2. Collect fees and process fee receipts.

3. To answer in person or by telephone all processing and procedural questions.

4. To log and distribute to the appropriate section, the plans, reports and maps received.

5. To coordinate technical assistance at the discretion of each affected Unit or when other circumstances deem it necessary.

6. To coordinate status information with the Land Development Management Agency Unit.

7. To insure consistency and completeness of returned plans.

8. Prepares the weekly backlog report summary that is sent to the Division and Department Administration for their use. The data is collected from individual reports prepared by the responsible units.

The Land Development Processing Center will accept the following submittals as applicable:

1. All City and County final tract and parcel maps and support material, grants of waiver, bonds and agreements, tax bonds declarations and affidavits, and fees as noted in Chapter 12 of this Manual.

2. All street plans, bonds and agreements for subdivision, and street improvements (48-0040 DPW form) for Building Permit applications and support materials as noted in Chapters 13, 17, 21 and 22 of this Manual.

3. Grading Plans, landscaping plans, erosion control plans, irrigation plans, and support materials as noted in Chapter 14 of this Manual. These items may be submitted to a Building and Safety Division plan check counter located in City and District offices. (They will then send them to the Land Development Division for review.)

4. All storm drain plans, drainage concepts, hydrology studies, grading plan drainage reviews, building plan drainage reviews and support materials as noted in Chapters 14, 16, 18, and 20 of this Manual.

5. All sewer plans, water plans, and supporting plans/maps statements of operations and/or water system acceptance letters from a water purveyor, registration material for mutual water companies, Fire Department requirements (Form No. 474), area studies, easement sketches and support material as noted in Chapters 23 and 25 of this Manual.

6. All geotechnical reports including geology and soils, interim grading, rough grading and building inspection as required throughout Part II of this Manual.

All appeals to either the Geology and Soils Appeals Board or the Water Appeals Board are to be submitted directly to the Land Development Division Administration. (See Chapter 27 of this Manual.)

NOTE: For storm drains, sewer, and street permit issuance and inspection fees, please call the Construction Division of the Department of Public Works at (818) 458-3141.

B. Land Development Management Agency

The Department of Public Works part of this agency (a unit of this section) is responsible for providing project management and coordination of all land development projects within the unincorporated area of Los Angeles County (see Part II "Procedures" of this Manual.) LDMA also provides status information upon request to any individual or organization requesting status of a land development project. The primary duties of the LDMA are as follows:

1. To coordinate the input and efforts of all county departments and developers for land development projects.

2. To identify potential problem areas in advance, take corrective actions, advise developers or his agents of the required actions and bring unresolved difficulties to the attention of the proper authority.

3. To establish project schedules for the developer/engineer when requested to do so.

4. To monitor prescheduled projects and advise all of unforeseen problems and delays.

5. To keep project status reports up to date.

6. To advise Sections of near term project due dates.

7. To review changes in program schedules requested by developer or county departments.

8. To provide general information on the status of land development projects.

9. To coordinate with the Sections the contracting out of plan reviews.

10. To keep statistical records on tentative maps and revenues and expenses collected on LDMA related work.

C. Subdivision/Bond Administration Unit

The Subdivision/Bond Administration Unit is divided into two subunits as follows:

1. Subdivision Subunit:

This subunit is responsible for processing and reviewing all tentative maps received from County unincorporated areas and those contract cities that utilize the County Regional Planning Commission. These Cities are Lomita, Lawndale, Bellflower, Westlake Village, Rolling Hills and Rolling Hills Estates.

The specific responsibilities are:

a. Tentative Map Processing.

A group within the subunit processes all tentative maps along with additional supporting information received by the Department from Regional Planning Department and distributes these materials to the appropriate Section/Division. (See Chapter 11 of this Manual.) Tentative maps to be reviewed in this Subunit are sent to the Subdivision Section for review and approval. (See Chapter 5 of this Manual.)

b. Tentative Map Review (Unincorporated Areas Only.)

A group within the subunit reviews each tentative map within County Unincorporated Areas, performs a field review if necessary, and sets conditions pertaining to final map approval as well as reviews any general Department comments or conditions and coordinates responses sent back from the Sections/Divisions by preparing the Department's conditions of final map approval. (See Chapter 11 of this Manual.)

The Unit Head represents this Department at the Subdivision Committee meetings, which are held weekly (usually Mondays) at the Department of Regional Planning. The conditions of tentative approval are presented to the engineer/developer with a brief explanation of each condition. The representative responds to any questions that are put to him regarding the review by this Department and acts as liaison if further discussions are needed.

In addition, this subunit determines whether or not a waiver of having to file a final map for a minor land division will be allowed. To determine if the waiver can be approved, the recommendations based on State and County Codes that are sent from the Road, Sewer and Water and Drainage and Grading Sections are reviewed. (See Chapter 29 of this Manual.) The decision regarding granting the waiver is submitted to the Subdivision Committee meeting for final review before going to the Regional Planning Commission for action.

All general inquiries regarding the Department conditions imposed on a tentative map should be directed to (818) 458-4915. Any technical inquiries should be directed to the Section responsible for that technical question. If it is a general regional planning question, it should be directed to the Department of Regional Planning Subdivision Unit at (213) 974-6433.

2. Bond Administration Subunit

This Subunit is responsible for handling all bonds/securities that are required to guarantee compliance of the approved conditions for subdivision recordation (see Chapter 13 of this Manual). Its goal is to hold bonds until all subdivision map agreements and conditions have been met. This subunit is responsible for handling all bonds/securities on tax files and regular Improvement Securities for subdivision (except for grading compliance which is handled by the Building and Safety Division). A record is kept of each subdivision noting the recording data and the status of all subsequent Improvement Securities through the data of exoneration or release of these securities. The agreement and securities are continually monitored and coordinated with the appropriate Sections/Division within the Department regarding reductions, releases, exonerations, extensions and for feitures. Part II of this Manual describes the procedures in which a developer can request any of the above. All public inquiries regarding the status of a bond should be directed to (818) 458-4953.

CHAPTER 5

SUBDIVISION SECTION

The Subdivision Section is responsible for the processing of all final subdivision maps filed in the County of Los Angeles, to provide land development information to developers through the Land Development Coordinating Center, assist planning departments of Contract Cities, and maintain Division files. Its goal is to assure that the recorded subdivision will be satisfactory for its intended use under State Law and County Codes. The Section has three units as follows:

A. Subdivision Map Unit

All subdivision maps are processed through this unit. The specific responsibilities of this Unit are as follows:

1. Subdivision Map Checking

This Unit checks tract maps, parcel maps, and certificates of compliance and grants of waivers. (See Chapter 12 of this Manual.) The major items in this assignment that are checked, evaluated, and verified include: (a) Payment of processing fees, (b) Verification that the map is consistent with the conditions of tentative approval, (c) Legal description of property being divided, (d) Certificates and acknowledgments (see Chapter 12), (e) Survey analyses of boundary establishment, (f) Survey monument establishments, (g) Mathematical accuracies of the surveys, (h) Easements and rights-of-way dedication, (i) Verification of tax clearance and security for taxes not yet payable, (j) Improvements securities and agreements, and (k) Title sheet requirements. (See Chapter 29 of this Manual.)

2. Subdivision Map Processing

This unit processes subdivision map tax write-ups for the Tax Collectors and Tax Assessor's offices. Draft and process separate instrument documents for easements to the County of Los Angeles in conjunction with subdivision projects.

3. Subdivision Map Filing

This Unit reviews final tract maps, parcel maps, certificate of compliance/grants of waiver and records of survey to assure compliance with applicable State laws and local ordinances and process for filing with the County Recorder.

4. Tentative City Map Review (Contract Cities that have their own Planning Commissions)

This unit reviews and makes recommendations to various cities who have their own planning commissions for tentative map approval in the same manner as the Subdivision Subunit of Development Management Section. (See Section C.1.b of Chapter 4 on Page 4-5.) These cities include Lakewood, Carson, Commerce, Temple City, Artesia, Hawaiian Gardens, La Mirada, La Puente and Rolling Hills Estates.

B. Land Development Coordinating Center (LDCC)

The "One Stop" coordinating center is designed to provide information, advice and guidance to developers and land owners (or to potential developers or land owners) on the requirements for land development projects. (See information distributed by LDCC on Pages 5-3 and 5-4.)

"The LDCC is staffed with representatives from three County Departments (Regional Planning, Fire Department, and Public Works). The representative from the Department of Public Works is assigned to the center on a part-time basis. The Committee meets on Tuesday, Wednesday and Thursday of each week at the Department of Regional Planning, 320 W. Temple Street, Room 1360. "One Stop" appointments can be obtained by calling (213) 974-6438.

The One Stop Team also holds meetings in the Santa Clarita and Antelope Valleys one day each month. Appointments can be made by calling (805) 253-7220 for Santa Clarita Valley sessions and (805) 723-4475 for Antelope Valley sessions.

A meeting with the "One-Stop Team" provides the prospective developer with information on the basic requirements he will have to meet in order to obtain a project approval. All of these departments are directly involved in reviewing and regulating private development. (These meetings are particularly helpful to individuals who do not routinely develop land.)

The Land Development Coordinating Center can provide the following information:

1. The County development procedures and the permit processes.

2. Information and counseling on the following items: (a) Physical features which may affect the developability of a property, (b) County of Los Angeles General Plan (including Community Plan Elements), (c) Zoning and subdivision ordinances, (d) Utility availability, (e) Street right of way and improvement requirements, (f) Traffic requirements, (g) Fire safety requirements, (h) Environmental, coastal, and other special determinations, (i) Building code, (j) Special assessments, (k) Charges and fees, (1) State and Federal Codes, and (m) Bond requirements.

3. Information relative to various impacts which will require further studies, i.e., archaeology, geohydrology, paleontology, botanical, hillside management, oak trees, significant ecological areas, etc.

While the information provided at the counseling sessions is only advisory, many cost reducing and time saving suggestions have been utilized by individuals resulting in better projects.

Although advisable, it is not necessary to utilize the Land Development Coordinating Center prior to filing a project with the Department of Regional Planning.

C. File Management

This unit is responsible for managing all Division Project Files in the Division File Room. (See Chapter 50 of this Manual.)

Any questions regarding the subdivision and file management processes discussed in Items A and C above should be directed to (818) 458-4915.

WHERE MAPS AND PLANS ARE SUBMITTED
In the unincorporated areas of Los Angeles County

LAND DEVELOPMENT COORDINATING CENTER (LDCC) - Preliminary maps for a proposed subdivision may be brought to LDCC for a consultation. The staff of the LDCC will provide the applicant with the requirements that might be imposed at the tentative map stage. A meeting with the LDCC Team provides the applicant with an opportunity to get feedback on a project from all departments directly involved in reviewing and regulating the project. The information provided at these sessions is purely advisory. These meetings are particularly helpful to individuals prior to filing land division or zoning applications. One Stop meetings are held Tuesdays, Wednesdays and Thursdays in Los Angeles, at the Antelope Valley Regional Office, in Lancaster, on Tuesday following the second Monday of the month and at the Santa Clarita Valley Regional Office on Tuesday following the fourth Monday of the month. Appointments are required for all consultations. For information about LDCC services and for appointments, call (213) 974-6438. The LDCC is located at 320 West Temple Street, Room 1360, Los Angeles 90012.

DEPARTMENT OF REGIONAL PLANNING - Tentative tract and parcel maps, zone changes, plot plans for planning matters, conditional use permits, general plan amendments, variances, and initial submittals of grants of waiver must be submitted to The Department of Regional Planning at 320 West Temple Street, Los Angeles 90012. Information regarding tentative subdivision maps can be obtained by calling (213) 974-6433 and information regarding zoning cases, plot plans, conditional use permits, general plan amendments, and variances can be obtained by calling (213) 974-6411.

LAND DEVELOPMENT PROCESSING CENTER - Final tract and parcel maps, street plans, grading plans, storm drain plans, drainage studies, street plans, grading plans, storm drain plans, drainage studies, water plans, sewer plans, area studies, and geology/soils reports are all submitted and picked up at the Land Development Processing Center at 900 South Fremont Avenue, 5th floor, Alhambra 91803. Information can be obtained by calling (818) 358-4930.

BUILDING & SAFETY DISTRICT OFFICES - Building plans/permits, mechanical plans/permits, electrical plans/permits, sewer connection permits and grading permits are all handled at the various offices of the Building & Safety Division. Grading plan checks may be submitted and picked-up at the district offices if desired. Contact Building & Safety Central Office at (818) 458-3173 or refer to the Land Development Procedure Manual for the location of the district office that has jurisdiction over the site.

SURVEY PUBLIC COUNTER - Records of survey, corner record notes, and tie notes for subdivisions are submitted at the public counter at 900 South Fremont Avenue, 3rd floor, Alhambra 91803. Prints of recorded tracts, parcel maps, records of survey, miscellaneous special district maps, and sewer plans may be obtained at this public counter. Information can be obtained by calling (818) 458-5126.

MAPPING AND PROPERTY MANAGEMENT DIVISION PUBLIC COUNTER - Flood Control Right-of-Way Maps may be obtained at the Public Counter at 900 South Fremont Avenue, 10th floor, Alhambra 91803. Information can be obtained by calling (818) 485-7004.

ASSISTANCE & INFORMATION - LAND DEVELOPMENT MANAGEMENT AGENCY (LDMA) - The Board of Supervisors has designated the Land Development Management Agency (LDMA) as the "single administrative entity" for development projects within the unincorporated areas of the County of Los Angeles. LDMA has offices in the Department of Regional Planning and Department of Public Works and is staffed by personnel from these Departments.

Tentative map and planning case status, zoning information, project management and assistance may be obtained from the Land Development Management Agency staff of the Zoning Administration Division located at 320 West Temple Street, Room 1351, Los Angeles 90012. Information can be obtained by calling (213) 974-6404.

Final map and improvement plan status, land development information, project management and assistance may be obtained from the Land Development Management Agency Staff of the Land Development Division located at 900 South Fremont Avenue, 5th floor, Alhambra 91803. This staff employs management techniques to reduce the processing time and expedite the processing of land development projects in addition to providing information and coordinating the review of applications. Information can be obtained by calling (818) 458-4932.

CHAPTER 6

DRAINAGE AND GRADING SECTION

The Drainage and Grading Section enforces the county codes in regards to earth-moving and evaluating Flood Hazard Mitigation for proposed developments. Its goal is to provide stable sites free of flood hazards. The section responsibilities are divided into two main categories.

A. Grading

The Section is responsible for reviewing all applications in which earthwork is involved as defined in Chapters 70 and 71 of Title 26 of the County Code (Building Code). (See Chapters 14 and 15 of this Manual.) This includes:

1. Reviewing environmental assessments and commenting on the effect of the proposed grading to the area. (See Chapter 9 of this Manual.)

2. Reviewing tentative subdivision maps and supporting data to determine if the proposed project is feasible. (See Chapter 11 of this Manual).

3. Performing detailed grading plan, Landscaping and Irrigation Plan, and Erosion Control Plan reviews to make sure that the proposed grading is in conformance with Chapters 70 and 71 of the County Building Code. (See Chapters 14 and 30 of this Manual.)

The grading plan review requires coordinating comments relative to drainage, roads, soils and geology aspects of the projects. This unit also verifies that any needed offsite Grading and Drainage Covenants are secured. Once grading plans are approved, all documents are sent to the responsible Building and Safety Division District Office for the issuing of a grading permit. (Building and Safety Division oversees all grading operations and handles field related problems.)

All inquiries regarding grading plan check review should be directed to (818) 458-4921. All inquiries regarding field operations and inspections should be directed the responsible Building and Safety Division Office.

B. Drainage

The Section is responsible for reviewing all projects for proper handling of Local Drainage, and Flood and Mud Hazard Mitigation. (See Chapters 18, 19 and 33 of this Manual.) This includes:

1. Reviewing environmental documents to verify that drainage issues are addressed and mitigation measures proposed that will protect the new development and not adversely impact surrounding properties. (See Chapter 9 and 28 of this Manual.)

2. Reviewing tentative subdivision maps and drainage concepts to verify the feasibility of the proposed projects. (See Chapters 11, 23, 31 and 32 of this Manual.)

3. Reviewing hydrology studies. (See Chapters 18 and 34 of this Manual.)

4. Reviewing building and grading plans for proper drainage solutions. (See Chapters 14 through 17 of this Manual.)

5. Reviewing proposed drainage facilities to assure hydraulic adequacies and the efficiency for operation and maintenance. (See Chapters 36 through 43 of this Manual.)

6. Reviewing quarry operation applications impacting Floodplains.

All inquiries regarding drainage should be directed to (818) 458-4921.

CHAPTER 7

ROAD, SEWER AND WATER SECTION

The Road, Sewer and Water Section enforces County ordinances and State laws in regards to road design, sewer design and water ordinance conformance. All questions regarding the work of this section as described below should be directed to (818) 458-4909. The Section is divided into the following two units:

A. The Road Unit

The Road Unit is responsible for setting conditions for tracts and parcel maps at tentative map stage, reviewing plans submitted for subdivision land improvements and deeded streets, and for verification of compliance with tentative map conditions at final map stage. (See Chapters 11, 12 and 21 of this Manual.) Also, it is responsible for processing certificates of compliance and for providing information regarding required right-of-way and slope easements to Facilities Management Department Right of Way Engineering Section, and to the public for permit and cooperative improvements, conditional use permits, and zone changes. (See Chapter 22 of this Manual.) In addition it is responsible for reviewing plot plans for possible road dedication, waiver, vacation and improvement requirements and drainage investigations, inquiries and complaints. (See Chapter 15 of this Manual.) The Design Division is responsible for reviewing plot plans related to R-3 zoning. Should there be any inquiries in this area of responsibility, please contact the Design Permits Unit at (818) 458-7984.

Occasionally special studies, projects and display maps involving roads are assigned to this unit. These assignments can be assigned to any subunit depending upon the nature of the assignment as it applies to the expertise of the subunit personnel.

Its goal is to verify that each site will have adequate access to meet its intended use. This unit is divided up into three subunits as follows:

1. Road Plan Check Subunit:

   Responsible for reviewing all road plans, tentative map review, and the final map review and final construction plans related to roads. Coordinate the street tree planting requirements for all subdivisions. (See Chapters 21 and 44 of this Manual.) Should there be any inquiries in this area of responsibility contact (818) 458-4909.

2. Road Permit Subunit:

   Responsible for reviewing all street or road encroachments such as required under conditional use permits, and zone changes. They also perform investigations and handle inquiries, complaints, waivers and street vacation requests from the public (see Chapters 16, 22, and 45 of this Manual).

3. Road Mapping Subunit:

   Responsible for preparing folders for filing road documents, all tentative, final and recorded tract and parcel maps. They maintain the Index Maps to reflect all the subdivision activity, public right-of-way, jurisdiction and boundary changes. Set conditions of approval for tracts and parcel maps. (See Chapters 21 and 44 of this Manual.)

B. Sewer/Water Unit

The Sewer/Water Unit is responsible for reviewing all private contract sewer plans and all water facility plans submitted to this Division as authorized under State and County Code provisions. (See Chapters 23 and 25 of this Manual respectively.) This unit is divided into the following two subunits.

1. Sewer Subunit:

Responsible for checking and approving all sewer plans to be constructed by private developers under private contracts. (See Chapters 23, 46, 47, and 59 of this Manual). Its goal is to ensure that each site will have adequate waste disposal. This includes work in unincorporated areas as well as contract cities. This subunit also sets sewer conditions of approval for tentative maps, coordinates capacity checks for discharges to existing sewers at the request of the Waste Management and Building and Safety Divisions, recommends acceptance of sewer easements, clears maps for recordation and processes record plans. Any questions regarding the private contract sewers should be directed to (818) 458-4909.

2. Water Code Enforcement Subunit

Responsible for the administration and enforcement of the Water Code, Division 1, Title 20 of the Los Angeles County Code, securing the compliance with correlative provisions contained in Title 21, Subdivision Ordinance, and providing technical assistance in enforcement of provisions contained in the County zoning, health, building and road franchise code provisions for the County of Los Angeles and its contract cities. (See Chapter 60 of this Manual.) Its goal is to verify that each site will have an adequate water supply to meet it's intended use. (See Chapters 25, 48, and 60 of this Manual.) This will include the following:

1. Consult with private engineers, developers and the public for providing water and fire protection under provisions of the Water Code. (See Chapter 48 of this Manual.)

2. Set water system requirements for Tentative Subdivision Map approval. (See Chapters 11 and 29 of this Manual.)

3. Comment on environmental documents. (See Chapters 9 and 28 of this Manual.)

4. Review the technical aspects of Water Plans and other documents for Compliance with Division 1, Title 20 of the County Code. (See Chapters 25, 48, and 60 of this Manual.)

5. Research cases appealed to the Water Appeals Board and attend the Board meetings as advisory member. (See Chapters 27 and 60 of this Manual.)

6. Set meeting date and time for, prepare agenda for and distribute documents to the Water Appeals Board. (See Chapters 27 and 60 of this Manual.)

7. Review County Road excavation permits involving the extension, replacement, or relocation of water mains. (See Chapter 25 of this Manual.)

8. Maintain and update records of water utility certificates of registration and water utility authorization. (See Chapters 25, 48, and 60 of this Manual.)

9. Define Water Service Boundaries. (See Chapter 25 of this Manual.)

10. Comment on underground water availability described in Geohydrologic reports which are prepared as a condition of approval of new subdivisions located outside existing water purveyor's district boundaries. This includes the establishment of a new mutual water company to supply water services to the subdivision. (See Chapters 25 and 48 of this Manual.)

11. Review recorded covenants between property owners and water purveyors where service is inadequate or unavailable to determine if there is adequate property description and proper acknowledgment before recordation. (See Chapter 25 of this Manual.)

12. Advise Water Appeals Board of any violations of the water code by a water utility company. The Board takes action as described in Chapter 27 of this Manual.

13. Maintain and update the Utility Manual. (See Chapter 60.)

14. Process fire flow tests. (See Chapter 60 of this Manual.)

C. Water Appeals Board

The purpose of the Water Appeals Board is to hear grievances regarding Fire Department Requirements and to advise the Department regarding Water policy. The details of its work is described in Chapter 27 of this Manual.

It consists of ten members, appointed by the Board of Supervisors for a four year term. There is one member representing each of the following categories:

1. Public Utility Management
2. Fire Protection Engineering
3. Builder Developers
4. Mutual Water Companies
5. Public Owned Water System
6. General Public
7. Civil Engineer in the field of Water System Design
8. Organized Labor
9. Representing one or more of the above categories
10. Representing one or more of the above categories

In addition the Water Appeals Board has advisory members. There are six advisory members who have no votes. They come from the following organizations:

1. Public Works Department Water-Specialist
2. Public Works Department Road-Specialist
3. Regional Planning Department
4. Health Department
5. County Counsel
6. Forester and Fire Warden

The Board members select their officers as follows: a Chairman, a Vice Chairman, and a Secretary. The Department of Public Works generally has functioned as Secretary. The meetings of the Water Appeals Board are held on the call of the secretary.

All inquiries regarding the operations of the Water Appeals Board should be directed to (818) 458-4909.

CHAPTER 8

MATERIALS ENGINEERING DIVISION

The Material Engineering Division performs geotechnical (geology and soils) functions for the Director of Public Works. Geotechnical functions, which includes engineering geology and geotechnical engineering as further described in this Chapter and in this Manual, are to assure safe and stable sites and structures taking into account existing and potential geotechnical hazards. The reviewing function for private developments, i.e., "Geotechnical Development Review," is detailed in this Chapter and Manual; the investigation function for County facilities, i.e., "Geotechnical Investigations," is further discussed in Chapter 26. All inquiries regarding the functions of this Division, should be directed to (818) 458-4923.

A. GEOTECHNICAL SPECIALTIES

There are two main specialists for Geotechnical Development Review and Investigations functions, the engineering geologist and the geotechnical engineer.

The typical duties of an engineering geologist specialist in this Department include applying geologic data, techniques, and principles to the study of naturally occurring rock and soil materials or subsurface fluids to assure that geologic factors are considered in the planning, design, construction, operation and maintenance of engineering structures and in the development, distribution, and protection of groundwater resources.

The typical duties of a geotechnical engineering specialist in this Department is to review or conduct investigations and engineering evaluations of earth materials and subsurface fluids for land development. This includes soil, rock, groundwater and man-made materials and their interaction with earth retention systems, structural foundations and other civil engineering work. The practice of geotechnical engineering involves application of the principles of soil mechanics and the earth sciences (geology) and requires a knowledge of engineering laws, geological terms, formulas, construction techniques and performance evaluation of civil engineering work influenced by earth materials. The purpose of geotechnical engineering is to assure that the design engineers have adequate soil parameters, geotechnical information, and recommendations to design and construct a civil engineering project that is safe for the intended use.

For information as to who may practice engineering geology and geotechnical engineering, the fields of expertise and the legal definition of these two professions, refer to Chapter 61 of this Manual.

General duties and organization for the independent development reviews and investigations by geotechnical personnel of the Material Engineering Division are as follows:

1. GENERAL DUTIES

a. Geotechnical Development Review

Geology and geotechnical engineering reviews are made of development plans, tentative maps, geological and geotechnical engineering reports, environmental documents, building plans, etc., for private development within the County of Los Angeles and its Contract Cities. Reviews are provided to verify that all geotechnical hazards have been identified and properly mitigated and that the development will not have an adverse geotechnical impact on adjacent properties. (See Chapter 49 of this Manual for minimum standards and guidelines for geotechnical reports.) Copies of standard forms used for reviews can be obtained by contacting the Materials Engineering Division at (818) 458-4923.

Specific reviews for approvals include reports, plans, site inspections, tentative maps, environmental impact reports and statements, grading plans, in-grading and building construction progress of projects, etc. (See Chapters 9 through 24 of this Manual for procedures.)

b. Geotechnical Investigations

The engineering geologist and geotechnical engineer investigate and prepare reports for Department projects, assist Waste Management Division, and review reports prepared by others for County projects (see Chapter 26 of this Manual). The consulting services includes other County agencies, Contract Cities, and other Divisions within the Department of Public Works.

2. ORGANIZATION

a. Geology Investigation Section

Engineering geology assignments generally consist of investigation of geologic hazards, such as landslides, rockfalls, mudflows, potential seismic activity, sea water intrusion, groundwater contamination due to hazardous waste, etc., for County owned or directed projects, such as groundwater studies, dam safety, road alignments, bridge design, building sites, water tank sites, utility line placement, etc. Also, this Section provides services to Water Management Division in the "Local Oversight Program" (contamination from underground tanks).

b. Geology Development Review Section

The engineering geologist reviews geologic data and submitted geological reports, plans, and performs site inspections. General geologic guidelines provided in Chapter 49 are used to review reports relative to proposed developments. If a geologic hazard is discovered or engineering analysis is required, the engineering geologist coordinates his/her review with the geotechnical engineer. Together, they must determine if all potential failure modes and consequences have been considered and evaluated for proposals.

The geologist and geotechnical engineer may review in-grading construction and commonly make inspections of graded conditions prior to geologic and geotechnical engineering approval of rough grading.

c. Geotechnical Engineering (Soils) Section

1. Geotechnical Engineering Development Review Unit

The geotechnical engineer verifies that 1) report boring log descriptions are consistent with the known geotechnical information, 2) there are sufficient samples of the subsurface materials, 3) there is sufficient test data to arrive at design parameters, 4) the calculations and engineering analysis are applicable to the site conditions and proposed developments, and that the results are accurate and meet County's minimum standards, 5) the report recommended design parameters are consistent with all of the known data, 6) that recommendations satisfy the requirements of the State and County Codes, and 7) that the project is safe for the intended use. Where geologic hazards have been indicated, the geotechnical engineer coordinates his/her review with the geologist.

2. Geotechnical Engineering Investigation Unit

Assignments include providing design criteria for foundation design, for slope stability and for correcting geologic hazards to assure that sites will be safe for the intended use. This includes evaluating the safety of all County-owned dams and privately owned small dams and the geotechnical aspects of County-owned buildings, sites, water distribution systems, storm drains, water conservation facilities, flood control facilities, parks, roads, highways, bridges, etc. (See Chapters 26 and 49 of this Manual.) In performing their work, this Unit relies upon the accuracy of laboratory test data developed by the Materials Engineering Division's Testing Laboratory. In addition this Unit performs environmental projects. These assessments include, but are not limited to, Phase I and Phase II studies.

B. ENGINEERING GEOLOGY AND SOILS REVIEW AND APPEALS BOARD

The "Engineering Geology and Soils Review and Appeals Board" handles appeals of County decisions and make reviews relating to geology and geotechnical engineering. (See Chapter 27 of this Manual.) This Board consists of three engineering geologists and two geotechnical engineers plus one alternate and are appointed by the Board of Supervisors. The Secretary of the Board is a member of the Materials Engineering Division. All inquiries regarding the appeal process should be directed to the Secretary of the Board at (818) 458-4923.

Disk Chapters 1-10/CHAP-08

CHAPTER 9

ENVIRONMENTAL DOCUMENTS

Land Development and Materials Engineering Divisions are responsible for assisting in the review of and/or preparation of supporting data for environmental documents and notification of potentially hazardous materials as follows:

I. Environmental Document Submittal Procedures and Fees

The Department of Regional Planning is responsible for determining the need for and the extent of details needed for environmental documents. This Department establishes a minimum deposit required for review.

Title 2 of the County Code establishes fee surcharges for Land Development Management Agency (LDMA). These fee surcharges are applied to development projects in accordance with the provisions of this Code. A list of charges is on Page 9-4.

II. Environmental Documents Review Procedures for Projects from Regional Planning Department

Several Divisions, sections and units in this Department are requested to provide input in this process. Most documents are reviewed by Drainage and Grading, and the Road, Sewer and Water Sections and Materials Engineering Division.

Requests to review environmental documents originate from the Department of Regional Planning and those cities whose planning departments desire this Department's services, and those cities or agencies which send out environmental documents to comply with the California Environmental Quality Act (CEQA) requirements.

The following types of documents are reviewed:

Notice of Consultation—This notice identifies environmental factors. This includes the need for infrastructure or compliance with applicable codes. The notice must cover any potentially significant hazardous effects such as flooding, landslide, or fault hazards. Grading impacts to sensitive environmental areas and scenic highways should be presented in this notice.

Notice of Preparation—This notice is the beginning of the environmental impact report or statement process to identify environmental factors and potential significant effects that should be considered in the final environmental document. This notice is required when the Department of Regional Planning has already determined that there are significant environmental impacts. This determination is usually made through the consultation process with the developers and their agents.

The review and comments by the Department on the environmental documents must cover all the factors of concern by the County developed during the previous steps. All requests to review reports from the Department of Regional Planning for private developments within County territory come from the Planning Division to the affected sections and/or units and are processed within these units as follows:

A. Drainage and Grading Section

The submitted report or environmental assessment is reviewed by a Civil Engineer. Comments are submitted to Planning Division. The Drainage and Grading comments are presented on the check list shown on Pages 9-5 and 9-6.

B. Materials Engineering Division

A copy of the environmental documents must be submitted for review by both an engineering geologist and a geotechnical engineer. The reviews are coordinated by the Section Head. Geotechnical Engineering reviews are performed under the direction of a Geotechnical Engineer. Geology and Geotechnical Engineering Review sheets are coordinated and returned to the originating organization, such as Planning Division, for their processing. The Materials Engineering Division retains the copy of the environmental document reviewed.

Environmental documents for the Department of Public Works ar discussed in Item III below.

C. Road, Sewer and Water Section

This section performs reviews, makes comments, and sends the comments to the originating organization.

III. Reporting Potential for Hazardous Waste or Methane Gas

Whenever the following conditions are known to occur during any part of a development review phase and there has been no prior notation, the reviewer should note that a review and a possible permit will be required from Waste Management Division before the development can be approved.

A. Sites where hazardous materials can come in contact with rainfall.

B. Sites with existing or will have installed underground storage tanks that will contain hazardous materials such as petroleum products.

C. Sites where industrial waste will be produced and discharged from the site.

D. Development is located on or adjacent to a landfill containing decomposable material.

E. Sites that will be used as a Hazardous Waste Management Facility.

F. Sites within 1000 feet of a site containing decomposable material or an existing or abandoned oil well.

G. Sites to be used for industrial and commercial use in which the required assumption is that there is a potential for hazardous material storage.

H. Site has existing or abandoned oil wells.

Chapter 46 of this Manual contains information regarding the minimum standards that must be established before development can be permitted.

Whenever a hazardous or industrial waste must leave the site, the permit application shown on Page 9-8 must be submitted to Waste Management Division. This copy is a reduced copy. The official form must be obtained from the Public Counter at Waste Management Division. In addition, if the waste is to be discharged into a sanitary sewer whose outlet agency is the Sanitation Districts, and the waste stream has not been exempted by the Sanitation Districts, the form on Page 9-9 must be submitted to Waste Management Division. This copy is part of a special three copy form. Copies are available from the Public Counter of Waste Management Division.

IV. Environmental Document Preparation for Department Capital Projects

Occasionally the Materials Engineering Division is requested to assist the lead Divisions in the review and/or preparation of environmental documents for Department of Public Works projects. Department initiated project assignments are sent to the appropriate Geology and/or Soils Investigations Units for document preparation and/or overview. In this case, the Geology Unit prepares comments with regard to geology and the Geotechnical Engineering Unit prepares comments in regard to geotechnical engineering. Occasionally, the lead agency will impose standards which will require additional and different data and comments. Response of the two Units are coordinated by the Section Head and submitted to the originating Division requesting the work.

LAND DEVELOPMENT MANAGEMENT AGENCY SURCHARGES

The following section of Title 2 of the Los Angeles County Code is effective commencing May 31, 1988. It imposes surcharges on new or reactivated land development permits and applications in the unincorporated territory of the County of Los Angeles. This surcharge will be used to fund an agency that will aid developers and subdividers in processing their projects through the County of Los Angeles and provide guidance on how to most expeditiously complete their projects. The following is a listing of the surcharge fees that will be collected:

Section 2.83.060. Fees. Whenever an applicant submits an application, or requests approval of a plan and permit, the following surcharge fee shall be paid in addition to all other fees and charges required by law.

		Fees
1.	A surcharge fee for each zone change or zone amendment.	$400
2.	A surcharge fee for each conditional use permit or variance in conjunction with a land development.	$50
3.	A surcharge fee for each low income housing permit.	$50
4.	A surcharge fee for each general plan amendment	$600
5.	A surcharge fee for each development agreement.	$400
6.	A surcharge fee for each tentative tract map or reactivation thereof in which no condominiums are proposed in the following amounts:	
	a. For each of the first 25 lots, and	$30
	b. For each of the next 25 lots, and	$20
	c. For each of the next 50 lots, and	$15
	d. For each of the next 100 lots, and	$10
	e. For each additional lot in excess of 200 lots	$5
7.	A surcharge for each tentative tract map of reactivation thereof for a condominium project in the following amounts:	
	a. For each of the first 50 condominium units, and	$10
	b. For each of the next 50 condominium units, and	$5
	c. For each of the next 100 condominium units, and	$3
	d. No surcharge fee shall be required for any unit(s) in excess of 200 units.	
8.	A surcharge fee of for each tentative parcel map or a reactivation thereof.	$300
9	A surcharge fee for each final tract map.	$300
10.	A surcharge fee for each final parcel map	$100
11.	A surcharge fee for each grant of waiver and certificate of compliance.	$25
12.	A surcharge fee for each street plan with an estimated construction cost of more than $10,000	$160
13.	A surcharge fee for each storm drain plan with an estimated valuation of $50,000 or less.	$100
	A surcharge fee for each storm drain plan with an estimated valuation of more than $50,000.	$150
14.	A surcharge fee for each sewer plan with an estimated valuation of more than $10,000	$150
15.	A surcharge fee for each water main plan consisting of more than 100 feet of main line	$120
16.	A surcharge fee for each grading plan consisting of 1,000 cubic yards or less	$50
	A surcharge fee for each grading plan consisting of more than 1,000 cubic yards	$120
17.	A surcharge fee for each building plan review of a building with an estimated valuation of more than $70,000	$60
	a. except that when building plan review fees are paid at one time for than fifty (50) such buildings in a project, a surcharge fee shall be required for the first fifty building plan reviews only	
18.	A surcharge fee for each highway construction permit with an inspection fee of more than $17	$150
19.	A surcharge fee for each storm drain construction inspection permit with an estimated valuation of $50,000 or less.	$50
	A surcharge fee for each storm drain construction inspection permit with an estimated valuation of more than $50,000.	$75
20.	A surcharge fee for each sewer construction permit with an estimated valuation on of more than $10,000	$75
21.	A surcharge fee for each grading permit consisting of 1,000 cubic yards or less	$25
	A surcharge fee for each grading permit consisting of more than 1,000 cubic yards	$60
22.	A surcharge fee for each transfer drain permit.	$50
23.	A surcharge fee for each building permit issued for a building with an estimated valuation of more than $70,000	$25
	a. except that when building permits are issued at one time for than fifty (50) such buildings in a project, a surcharge fee be required for the first fifty permits only.	

sa:1/25/89

48-0014 DPW 4/86

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

☐ FINAL MAP REPORT

☐ LAND USE REPORT

Files Nos. 2-15.311 2-15.313 1.21

Review of _____

_____

Map or Transmittal Letter Date

_____

Assignment No. _____

TO: _____

_____

_____

_____

_____

_____ 1. The Drainage and Grading Section has no requirements for this subdivision/application.

_____ 2. The subdivision/site is reasonably free of flood hazard.

_____ 3. Portions of the property are subject to sheet overflow, (and) ponding, ( ) and mudflows from steep hillsides.

_____ 4. Portions of the subdivision/site lying in and adjacent to ( ) steep hillsides, ( ) natural watercourses, ( ) _____ are subject to flood hazard because of ( ) tidal/wave action, ( ) overflow, ( ) erosion, ( ) mudflow and/or deposition of debris.

_____ 5. This project will not significantly affect the environment as far as the Section's interests are concerned, provided the appropriate ordinances and codes are followed.

_____ 6. Place a note of flood hazard on the final map/grant of waiver and submit engineering documentation to support those limits.

_____ 7. Dedicate to the City/County the right to restrict the erection of buildings in the flood hazard areas.

_____ 8. Adequate engineering documentation must be submitted showing that building sites are available and are free of flood hazard.

_____ 9. Provide a drainage concept prior to approval of the tentative map. Sufficient information must be submitted to the Department showing the extent of the drainage problem and proposed solution.

_____ 10. Provide improvements to eliminate the flood hazard. Improvements may include ( ) storm drains and/or channels, ( ) debris control facilities, ( ) vehicular access to structures, ( ) _____.

_____ 11. Dedicate fee title/an easement/future easement to the District/County of Los Angeles/City of _____ _____ providing adequate right of way for _____.

_____ 12. Show on the final map the Flood Control District's right of way for _____. A permit will be required for any construction affecting the District's right of way or facilities.

_____ 13. Approval of the _____ is recommended subject to conditions noted herein or shown on the returned map.

_____ 14. The recordation of this map will not unreasonably interfere with the free and complete exercise of the easement held by the District/County.

_____ 15. The _____ is unsatisfactory. Note the reasons stated herein or shown on returned map.

_____ 16. Proposed grading must be in compliance with Chapter 70 of the County Building Code.

Comments:

Information relative to the above comments may be obtained by contacting:

Engineering Investigator _____

Telephone (213) 738- _____

Approved by _____ Date of Report _____

Drainage and Grading Section

DEPARTMENT OF PUBLIC WORKS

MATERIALS ENGINEERING DIVISION

GEOTECHNICAL DEVELOPMENT REVIEW

ENVIRONMENTAL DOCUMENTS REVIEW

PROJECT IDENTIFICATION _____

LOCATION _____

DATE RECEIVED _____ DEADLINE _____

DATA REVIEWED _____

The proposed project has no significant effects on the checked environmental factor(s) from a geology and soils standpoint provided the appropriate ordinances and codes are followed.		
Review of the Initial Study/geotechnical report indicates that the proposed project will have significant effects on the checked environmental factor(s) from a Geology and/or Soils standpoint. See discussion.		
The environmental document is inadequate from a geology and soils standpoint. See discussion.		
DATE REVIEW COMPLETED _____		

DISCUSSION OF POTENTIALLY SIGNIFICANT EFFECTS AND/OR REPORT INADEQUACIES

Geology

Soils

Original to: Planning Division or
LDMA/Processing Center Section

cc: Geotechnical Development Review

AM:E.2

Jurisdiction

( ) NEW PERMIT
( ) PERMIT REVISION

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

900 South Fremont
Alhambra, California 91803
Telephone : (818) 458-3520

APPLICATION FOR INDUSTRIAL WASTE DISPOSAL PERMIT

( ) Corporation
( ) Partnership
( ) Individual

APPLICANT (Firm Name) _____
(Please Print)

MAILING ADDRESS _____
Street (P. O. Box) City State Zip

OWNER, TENANT, ETC. _____ OF PROPERTY @: _____

LOCATION ADDRESS _____ TELEPHONE _____
Street City Zip

TYPE OF INDUSTRY FEDERAL SIC NO.

General Description - Describe for each disposal method - Attach additional sheets

RAW MATERIALS USED _____

PRODUCTS PRODUCED (SERVICES) _____

WASTEWATER PRODUCING OPERATIONS _____

METHOD OF DISPOSAL: ( ) PUBLIC SEWER, ( ) PRIVATE UNDERGROUND DISPOSAL SYSTEM
( ) SURFACE WATERS, STREAM OR STORM DRAIN, ( ) HAUL TO LEGAL DISPOSAL POINT, ( ) OTHER

(DESCRIBE): _____

Note: Multiple disposal methods may require separate permits.

CONSTITUENTS OF WASTE DISCHARGE _____

ESTIMATED WASTE QUANTITY (Gallons per day) _____

ESTIMATED WASTE PEAK FLOW RATE (Gallons per minute) _____

ESTIMATED QUANTITY AND DISPOSITION OF SOLID WASTES _____

As a condition of the issuance of the permit herein applied for, the applicant agrees to submit additional information as may be required by the director of Public Works. Permits may be subject to additional conditions and limitations. An inspection fee may be required upon permit issuance.

PERSON RESPONSIBLE FOR WASTE DISCHARGE:

NAME (Please Print) _____ TITLE _____

I AFFIRM THAT ALL INFORMATION FURNISHED IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

SIGNATURE _____ DATE _____

RETURN THIS APPLICATION, REQUIRED PLANS, SUPPORTING INFORMATION AND AN APPLICATION FEE OF $ PAYABLE TO LOS ANGELES COUNTY DIRECTOR OF PUBLIC WORKS	TO:	Los Angeles County, Dept. of Public Works 900 South Fremont Ave. Alhambra, California 91803-1331

CWS ydt-8 6/78

APPLICATION NO.
A 003611

PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE
SANITATION DISTRICTS OF LOS ANGELES COUNTY
1955 Workman Mill Road / Whittier, Ca.
Mailing Address: / P.O. Box 4998, Whittier, California 90607
Charles W. Carry, Chief Engineer and General Manager

PERMIT NO.

_____, Calif. ____/____/____
MO. DAY YR.

01 CHECK ONE:
NEW SEWER CONNECTION ☐
EXISTING SEWER CONNECTION ☐

02 APPLICATION IS HEREBY MADE BY _____
PRINT (FIRM NAME)

03 (Mailing Address) _____
(STREET) (CITY) (STATE) (ZIP)

04 _____ of the property located at:
(OWNER, TENANT, ETC.)

05 (Street) _____ (City) _____ (Zip) _____
PRINT (LEGAL ADDRESS OF PROPERTY PRODUCING WASTEWATER DISCHARGE)

06 Assessors Map Book No. _____ Page No. _____ Parcel No. _____
(LEGAL ADDRESS OF PROPERTY PRODUCING WASTEWATER DISCHARGE)

07 _____
PRINT (LOCATION OF POINT OF WASTEWATER DISCHARGE TO SEWERAGE SYSTEM)
for a Permit for Industrial Wastewater Discharge to the sewerage system.

08 Type of Industry _____ _____
(GENERAL DESCRIPTION) (FEDERAL SIC NOS.)

09 Number of Employees (Full Time) _____ (Part Time) _____

10 Raw Materials Used _____
(GENERAL DESCRIPTION — ADD ADDITIONAL SHEETS AS NEEDED)

11 Products Produced _____
(GENERAL DESCRIPTION — ADD ADDITIONAL SHEETS AS NEEDED)

12 Wastewater Producing Operations _____

_____
(FULL DESCRIPTION — ADD ADDITIONAL SHEETS AS NEEDED)

13 Time of Discharge — _____ AM/PM to _____ AM/PM, Days per Week M T W Th F Sa Su
(WORKING DAY — CROSS OUT AM OR PM) (CIRCLE DAYS)

14 Wastewater Flow Rate _____ Gallons per Day _____ Gallons per Minute
(AVERAGE) (PEAK)

15 Constituents of Wastewater Discharge _____

_____
(GENERAL DESCRIPTION — ATTACH CHEMICAL ANALYSES RESULTS TO THIS APPLICATION)

16 Person in company responsible for industrial wastewater discharge:

_____
PRINT (NAME) (POSITION) (TELEPHONE NUMBER)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

Date _____, 19____

17 Signature for Applicant _____
(COMPANY ADMINISTRATIVE OFFICIAL) (NAME) (POSITION)

18 Approved by City or County Official

Date _____

For Dept. of County Engineers ..... ☐

City of _____ ☐

Name _____

Position _____

19 Approved by Sanitation Districts of Los Angeles County

Date _____

Charles W. Carry, Chief Engineer and General Manager

by _____

Position _____

Note: Please submit application first to City or County Agency who may require a permit fee.
This form when properly signed shall be a valid permit unless suspended or revoked.

RETURN THIS COPY TO APPLICANT WHEN APPROVED 9-9

DRAFT

CHAPTER 10

FLOOD HAZARD AND GEOLOGICAL SITE INSPECTIONS

The County offers a service to citizens to have a piece of property inspected relative to obvious flood and geologic hazards. This inspection would determine if development is feasible and the investigation requirements required for development approval.

A. Flood Hazard Reports

Flood Hazard reports are a Flood Control District Function under Section 308 (a) of Title 26 of the County Code (Building Code). (See Chapter 55 of this Manual.) The service is performed by the Drainage and Grading Section of Land Development Division. The following procedure is utilized to obtain a flood hazard report:

1. Request for a Flood Hazard Report

Any interested party may request a flood hazard report on any piece of property. This consists of sending a letter requesting this service to Drainage and Grading Section, Building and Safety/Land Development Division, Department of Public Works, P. O. Box 1460, Alhambra, CA 91302-1460. A fee of $60.00 must accompany this request. (See Chapter 55 of this Manual.)

2. Flood Hazard Report preparation and distribution.

Upon receiving the request for a flood hazard report, the latest flood hazard maps prepared by the Federal Emergency Management Agency (FEMA) are reviewed. The form on Pages 10-3 and 10-4 is completed and sent to interested party requesting the report by return mail.

B. Geologic Site Inspection

A geology site inspection is a service provided to the public for an undeveloped site. It is to determine whether or not a report will be required prior to geotechnical approval for a proposed residence. The service is performed by the Development Review Units of the Materials Engineering Division. The following site inspection procedures are used:

1. Request for Geologic Site Inspection

Inquiries are received at the Building and Safety/Land Development District Office from realtors, builders, or other not applying for a permit prior to site development design, to determine (1) if a undeveloped lot or parcel of land has been determined by the County to be subject to hazard of landslides, settlement or slippage, or (2) if a geologic or geotechnical engineering report will be required before a permit can be issued. Such inquiries are screened by the District Building and Safety Office Management. Where information is available in the office to make such determinations, such as areas previously marked on house numbering maps or from records of the Materials Engineering Division, such as Restricted Use Areas shown on subdivisions maps or areas of known uncompacted fill, etc., the appropriate answer may be given by the Building Official. If an explanation of the information is needed, the person may be referred to the Materials Engineering Division's Geology Development Review Unit.

When the information in the District Building and Safety District Office or in the Materials Engineering Division is not sufficiently clear to make a determination, a site inspection by the Geology Development Review Unit can be made.

2. Application for Geology Site inspection

The Miscellaneous Application Form, CE875 (see copy on Page 10-5), is used for initiating a geologic site inspection. This form is submitted along with a fee to the local Building and Safety District Office. The validated Miscellaneous Application and plan are submitted by the Building Official to the Geology Development Review Unit. Additional fees are required for reports submitted by the applicant. An engineering geologist will review the site in the field and will prepare a review sheet indicating his findings. Copies of the review are sent for the District Office and applicant.

If the Building and Safety/Land Development Division requires that geology and/or geotechnical reports be reviewed by the Materials Engineering Division, a fee paid receipt along with the geology form (20-0002) shall be submitted to Building and Safety District Office along with the geology and/or geotechnical reports and a set of building plans showing the anticipated development must be submitted by the Building and Safety District Office.

The Building and Safety/Land Development Division determines the amount of the plan check fee. The review by the Materials Engineering Division will follow procedures outlined under Chapter 16 of this Manual.

3. Site Inspection Scope/Limitations

The Department of Public Works' review for the "Geologic Site Inspection" is intended to inform the applicant whether, based on readily apparent conditions on the (undeveloped) site or the general location of the site, an engineering geology and/or geotechnical engineering report may be required and/or to tentatively indicate possible conditions that may have to be met prior to issuance of a permit. Because of the very limited nature of the "Geologic Site Inspection" review, any statements made in the review sheet are not binding on the Department and are not to be relied upon by anyone in deciding whether to build on or buy any property. Further review requires submittal of a permit application for grading and/or building.

When reports are submitted, they will be reviewed relative to the apparent geotechnical conditions of the site. The review is intended as a one-time review of the proposed development. A detailed plot plan of the proposed development is required. A review sheet is prepared with comments.

The applicant of the permit must consider:

a. The review will not necessarily determine if the site is suitable or unsuitable for building but will advise if any conditions are apparent that would indicate a need for a geologic and/or soils report(s) prior to issuance of a permit.

b. The review fee is intended to provide only for cursory review of reports. A comprehensive review shall be conducted when the project is submitted for permit application.

c. Because of the very limited nature of the review conducted by this Department, any statements made in this review sheet are not binding on this Department and are not to be relied upon by anyone in deciding whether to build on or buy any property. Further review is required upon submittal of a permit application for grading and/or building.

d. Additional data may be subsequently brought to the Department's attention which may materially affect and/or supersede comments made by the reviewer.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

FLOOD HAZARD REPORT

FILES NOS. 2-15.311 2-15.313

Date Requested: _____

FLOOD HAZARD REPORT: TRACT/PARCEL MAP NO. _____

CITY OF _____

____ The Department of Public Works has no requirements for this subdivision/site.

____ The subdivision/site is reasonably free of flood hazard. (Major and Local)

____ The subdivision/site is reasonably free of flood hazard from major channels and streams, but may be subject to local flood hazard.

____ The (rear) (portions) of (lots) _____ (is/are/will be) subject to flood hazard due to ( ) erosion, ( ) overflow, ( ) inundation, ( ) ponding of local storm water.

____ Portions of the subdivision/site lying in and adjacent to ( ) steep hillsides, ( ) natural watercourses, ( ) _____ are subject to flood hazard because of ( ) tidal/wave action, ( ) overflow, ( ) erosion, ( ) mudflow, and/or deposition of debris.

____ When the subdivision/site is graded and the drainage facilities constructed in accordance with plans which have been submitted, the developed portions of the subdivision/site will be reasonably free of flood hazard.

____ Refer to the report of the City Engineer concerning local drainage requirements.

____ The subdivision/site is in Zone _____ based on the Firm National Flood Insurance Rate Maps.

____ COMMENTS:

Information relative to the above comments may be obtained by contacting:

Engineering Investigator _____

Telephone (213) 738-2828

Approved by _____ Date _____

DRAINAGE AND GRADING SECTION

76M444
CE 875 (11 84)

MISCELLANEOUS APPLICATION

COUNTY OF LOS ANGELES — BUILDING AND SAFETY DIVISION

1

WORKERS' COMPENSATION DECLARATION

I hereby affirm that I have a certificate of consent to self insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab. C.).

Policy No. ..... Company .....

☐ Certified copy is hereby furnished.

☐ Certified copy is filed with the county building inspection department.

Date ..... Applicant .....

CERTIFICATE OF EXEMPTION FROM WORKERS' COMPENSATION INSURANCE

(This section need not be completed if the work involved by the permit is for one hundred dollars ($100) or less.)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws.

Date ..... Applicant .....

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked.

LICENSED CONTRACTORS DECLARATION

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

License Number ..... Lic. Class .....

Contractor ..... Date .....

☐ I am exempt from the licensing requirements as I am a licensed architect or a registered professional engineer acting in my professional capacity (Section 7051, Business and Professions Code).

Lic. or Reg. No. ..... Date .....

HOME OWNER-BUILDER DECLARATION

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Section 7031.5, Business and Professions Code):

☐ I, as owner of the property, will do the work and the structure is not intended or offered for sale (Section 7044, Business and Professions Code).

CONSTRUCTION LENDING AGENCY

I hereby affirm that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C.).

Lender's Name .....

Lender's Address .....

I certify that I have read this application and state that the above information is correct. I agree to comply with all County ordinances and State laws relating to building construction, and hereby authorize representatives of this County to enter upon the above-mentioned property for inspection purposes.

..... Signature of Permittee ..... Date

FOR APPLICANT TO FILL IN			
BUILDING ADDRESS			
LOCALITY			
NEAREST CROSS ST.			
LEGAL DESCRIPTION	LOT NO.	BLOCK	
TRACT		NO. OF BLDGS. NOW ON LOT	
SIZE OF LOT		USE OF EXISTING BLDG.	
OWNER			
MAIL ADDRESS			
CITY		TEL. NO.	

APPLICATION FOR

TRAILER USE ☐ GEOLOGY INSPECTION ☐

OCCUPANCY INSPECTION ☐

SAFETY PERMIT ☐ (LIST ITEMS BELOW)

SIZE OF EXISTING BLDG.	NO. OF STORIES
PRESENT USE OF BUILDING	
NO. OF EXISTING BUILDINGS ON LOT AND USE	
NO. PARKING SPACES PROVIDED	
PROPOSED USE OF BUILDING	
PROPOSED MAX. OCC.	

PERMIT FEE	
ISSUANCE FEE	
TOTAL FEE	

SEE REVERSE FOR EXPLANATORY LANGUAGE

BUILDING ADDRESS			
LOCALITY			
NEAREST CROSS ST.			
DISTRICT NO.	GROUP	TYPE CONST.	PROCESSED BY
MAP NO.	HIGHWAY (CIRCLE)	STATE MAJOR SECOND LOCAL	
USE ZONE	SPECIAL CONDITIONS		

OCCUPANCY GROUP ☐

OCCUPANT LOAD _____

EXIT HARDWARE:

No Spec. Knowl. ☐

Panic Devices ☐

NO. OF EXITS ☐

PARKING SPACES REQ'D ☐ PROVIDED ☐

LIMITED TIME USE

FROM: DATE TO: DATE

INSPECTOR'S SIGNATURE

FINAL APPROVAL		

INSPECTOR COPY

33263

20-0002 3/87
76R150 (CE 911) REV. 3/87

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION

FEE RECEIPT

WHEN VALIDATED THIS IS A RECEIPT FOR THE AMOUNT OF FEE COLLECTED AS SHOWN IN SPACE BELOW. THE SERIAL NUMBER, DATE AND AMOUNT VALIDATED HEREON HAS ALSO BEEN VALIDATED ON YOUR APPLICATION OR OTHER DOCUMENT AND HAS BECOME A PART OF THE RECORDS OF THE COUNTY OF LOS ANGELES, FROM WHICH THIS RECEIPT MAY BE IDENTIFIED.

- ☐ PLAN CHECKING-VALUATION $_____
  STORIES_____CLASS_____
- ☐ GRADING PLAN CHECKING_____VOLUME_____CU. YDS.
- ☐ ELECTRICAL PLAN CHECKING
- ☐ PLUMBING PLAN CHECKING
- ☐ MECHANICAL PLAN CHECKING
- ☐ ENERGY PLAN CHECK
- ☐ RELOCATION APPLICATION
- ☐ SPECIAL INSPECTOR
- ☐ JOURNEYMAN PLUMBER EXAMINATION
- ☐ _____

- ☐ WITNESS FEE & MILEAGE
- ☐ GRADING CASH BOND
- ☐ TRAILER APPLICATION
- ☐ E.I.R. FEES
- ☐ REHEARING FEE
- ☐ _____

RECEIVED OF:_____

JOB ADDRESS:_____

NOTICE

APPLICATIONS FOR BUILDING & GRADING PLAN CHECKING ISSUED UNDER THE PROVISIONS OF SECTION 303(C), LOS ANGELES COUNTY BUILDING CODE WILL EXPIRE IF NO PERMIT IS ISSUED WITHIN 180 DAYS.

VALIDATION
CASH CHK. M.O.

DIST. NO.

RECEIVED BY_____

MOORE Speediset 405

10-6

CHAPTER 11

TENTATIVE SUBDIVISION MAPS

Building and Safety/Land Development Division is the lead Division in the processing of tentative maps in the Department of Public Works. This Division serves as liaison with the Department of Regional Planning and utilizes other Divisions within the Department of Public Works to provide specialized services. The following is the procedure for processing tentative maps within the Department of Public Works.

A. Subdivision Map Number Distribution

In order to obtain a tentative tract map number or a tentative parcel map number, the Processing Center (Telephone (818) 458-4930) must be contacted. Some cities issue their own parcel map numbers. The State Government Code states that major land division numbers including all tract and certain parcel map numbers can only be issued to licensed land surveyors or registered civil engineers. Any subdivider or his agent can obtain a number for a minor land division. (A minor land division is a subdivision creating four or less parcels, a condominium project creating four or less condominiums as defined in Section 783 of the Civil Code, a community apartment project containing four or less parcels or a lease project containing four or less building sites.) The form on Page 11-10 must be completed before a number can be issued.

B. Tentative Subdivision Map Submittal

After a tentative tract map number is obtained from the Department of Public Works, Land Development Division, Processing Center, the tentative map can be submitted to the proper jurisdiction, either the County Regional Planning Department or the contract City that processes their own tentative maps. These agencies have their own procedures and system of charges. However, these agencies must submit the following minimum amount of documents to the Subdivision Subunit of the Development Management Section for proper Department of Public Works processing:

1. Tentative Maps - blue line prints, 16 maps.

2. Tentative Maps - brown line prints, 1 map.

3. Zoning and Subdivision Application (former Owners Statement) - 16 copies.

4. Assessors Map - 2 copies.

5. Thomas Guide Page - 2 copies.

In addition, this Department may require drainage concepts and/or geotechnical (Geology and Soils) reports to verify the safe developability of the tentative map. If these items are required, 2 copies of each are to be submitted to the Processing Center of the Development Management Section.

If an insufficient number of documents are received, the review process will be significantly delayed.

C. Tentative Map Processing

The Subdivision Subunit of the Development Management Section is responsible for processing all tentative maps and to coordinate all tentative subdivision map reviews for the Department. Initially this subunit prepares folders containing the subdivision information for the Subdivision Section and Land Development Management Agency (LDMA). The Subdivision Section folder is kept in this unit until the Subdivision Committee Meeting for the proposed subdivision is held, then it is filed in the Subdivision Section files in the Land Development Division File Room. The LDMA file is placed in the LDMA file system and is destroyed after map recordation. The tentative map and owners statement copies received by the Subdivision Subunit are distributed as follows:

1. Subdivision Section Folder - 2 copies (And extra copies if any, to serve as a backup in case a copy is misplaced).

2. Material Engineering Division - 1 copy.

3. Drainage and Grading Section - 1 copy.

4. Road Unit - 1 copy.

5. Sewer Unit - 1 copy.

6. Water Ordinance Unit - 1 copy.

7. Traffic and Lighting Division - 2 copies.

8. Planning Division - 1 copy.

9. Road Maintenance Division - 1 copy.

10. Land Development Management Agency - 1 copy.

11. Property and Mapping Division - Automated Graphics Section - 2 copies.

The brown line map goes into the Subdivision Section file. The assessors map copies and the Thomas Guide page are sent to LDMA and the Subdivision files. The optional information mentioned in the previous section, such as the drainage concept and the geotechnical reports, are distributed to the Drainage and Grading Section and Materials Engineering Division, respectively, to be reviewed in conjunction with the review of the tentative maps that they received.

The final step in distributing the tentative map and accompanying documents is to enter the basic data concerning the project on the Project Master Record (see Page 11-11). This completed form with basic information for each tract or parcel map is sent to LDMA for data entry in the computer system.

D. Tentative Map Review and Reporting Procedures

The purpose of the tentative map review is to establish project feasibility and consistency within area development and to determine the infrastructure which is necessary to adequately serve the proposed subdivision. It must be shown that each lot has a buildable area and the buildable area will have adequate access and utility services in accordance with the State Subdivision Map Act and County Codes. (See Chapter 29 of this Manual.)

Once each unit, section or division receives its appropriate map and other materials previously listed, each is then required to perform a review to see that the County Codes are being met. As specialized expertise is required, each organization has their particular checking procedure. The Subdivision Map Act establishes a maximum processing and review period within which proposed subdivision must be heard by the Advisory Agency. However, if additional supporting information, design revisions, etc., are required prior to recommending tentative approval by this Department, the applicant may be granted extensions to the required review period, otherwise a denial is recommended to the Advisory Agency at the Subdivision Committee Meeting.

Each Section or Unit performs their reviews as described below:

1. Subdivision Subunit, Development Management Section

The Subdivision Subunit of the Development Management Section reviews tentative maps accepted by Regional Planning Department for general subdivision and mapping criteria. This includes lot design and layout, easement notes, special notes required on the final map (i.e., condominium projects), access, disposition of existing structures, remainder parcels, off-site

condemnation and other general mapping specifications as developed in the California Government Code, Title 21 of the County Code (Subdivisions) and Departmental policies. (See Chapters 4 and 29 of this Manual for specific details.)

If the proposed subdivision is to be approved for commercial or industrial use and/or a fill containing decomposable materials or an existing or abandoned oil well is within 1,000 feet or the site, Waste Management Division is to be notified of this subdivision. In addition, the applicant should be instructed as part of the conditions of approval that a permit from Waste Management Division will be required before issuance of a building permit. (See Chapter 46 of this Manual regarding approval requirements.) Maps of known locations of sanitary landfills and oil well fields have been issued to the Section Head.

If the development is to be used for industrial or commercial use, the developer should be notified that waste handling facilities are required as part of the building plan. If there are any hazardous waste or other wastes to be handled by the development, Waste Management Division should be informed and the developer notified of the requirements in Chapter 46 of this Manual.

The applicable information is presented on the attached forms on Pages 11-12 through 11-18.

2. Subdivision Section

The Subdivision Map Unit of Subdivision Section reviews all tentative maps from Contract Cities who have their own Planning Commissions and contracts with this Department to perform the same functions and utilizing the same forms as noted above in Item 1. (See Chapter 5 of this Manual.)

3. Drainage and Grading Section

The Drainage and Grading Section reviews the tentative map for flood hazard identification, mitigation and grading related concerns. This includes the determination whether or not a grading plan, or drainage improvements are needed. (See Chapter 30 of this Manual.)

Often grading limitations on a development are imposed by the Regional Planning Commission. Since grading is not bonded or covered by an agreement as noted in Chapter 13 of this Manual, a Conditional Use Permit (CUP) will be required as the basis for detailed future development limitations.

Title 22 of the County Code (Planning and Zoning Code) contains the definitions of all Zones and Districts in Chapter 22.12. The regulations of Zoned Districts and Maps are presented in Chapter 22.16. Subsequent Chapter describe in detail the regulations for each type of zone. In general, CUP's are required for grading under the following conditions for most zones:

a. Grading projects, off-site transport, where more than 100,000 cubic yards of material is to be transported, subject to the conditions and limitations of Sections 22.56.210 and 22.56.230.

b. Grading projects, on-site, but excluding projects where the hearing officer or the commission or the board of supervisors have previously considered such grading proposal as indicated by approval of an environmental document incorporating consideration of such grading project.

c. Hillside Management and Significant Ecological areas.

Section 22.56.210 contains the requirements for off-site transport of grading materials. The application for a conditional use permit shall contain statements setting forth the following information, in addition to that required by Section 22.56.030:

a. The names and addresses of all persons owning all or any part of the property from which such material is proposed to be removed from and transported to;

b. The names and addresses of the persons who will be conducting the operations proposed;

c. The ultimate proposed use of the lot or parcel of land;

d. Such other information as the director finds necessary in order to determine whether the application should be granted.

The applicant shall submit a map showing in sufficient detail the location of the site from which such material is proposed to be removed, the proposed route over streets and highways, and the location to which such material is to be imported.

All hauling as approved under this section shall be restricted to a route approved by the Department of Public Works.

Compliance shall be made with all applicable requirements of other county departments and other governmental agencies.

Section 22.56.215 defines and contains detailed regulations for Hillside Management and Significant Ecological Areas. In general any area where the natural slope is 25 percent or more is considered to be within the Hillside Management Area. The County General Plan and related maps note known significant ecological areas within the County. The plan is revised often. The developer has the burden of proof regarding the substantiation of the following facts:

a. Hillside Management Areas.

1/ That the proposed project is located and designed so as to protect the safety of current and future community residents, and will not create significant threats to life and/or property due to the presence of geologic, seismic, slope instability, fire, flood, mud flow, or erosion hazard, and

2/ That the proposed project is compatible with the natural, biotic, cultural, scenic and open space resources of the area, and

3/ That the proposed project is conveniently served by (or provides) neighborhood shopping and commercial facilities, can be provided with essential public services without imposing undue costs on the total community, and is consistent with the objectives and policies of the General Plan, and

4/ That the proposed development demonstrates creative and imaginative design, resulting in a visual quality that will complement community character and benefit current and future community residents;

b. Significant Ecological Areas.

1/ That the requested development is designed to be highly compatible with the biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas, and

2/ That the requested development is designed to maintain water bodies, watercourses, and their tributaries in a natural state, and

3/ That the requested development is designed so that wildlife movement corridors (migratory paths) are left in an undisturbed and natural state, and

4/ That the requested development retains sufficient natural vegetative cover and/or open spaces to buffer critical resources areas from said requested development, and

5/ That where necessary, fences or walls are provided to buffer important habitat areas form development, and

6/ That roads and utilities serving the proposed development are located and designed so as not to conflict with critical resources, habitat areas or migratory paths.

The map is also reviewed for the need to identify existing drainage easements or to identify flood hazard limits. At this time the probable need for approval prior to final map approval by other agencies, such as California Fish and Game Department, California Coastal Commission, U. S. Army Corps of Engineers, etc., is indicated. This is advisory only since it is the responsibility of the private engineer to determine what agency approvals are needed. The form on Pages 11-19 and 11-20 is a checklist for the review of maps within the County unincorporated area and indicates requests for additional work. The form on Pages 11-21 and 11-22 is a checklist for the review of projects within incorporated cities and also indicates requests for additional work.

Detailed requirements for required permits from other agencies are described in Item E on Page 14-5, Chapter 14 of this Manual.

If there are serious drainage problems at the site, the tentative map will be denied until a drainage concept is submitted and approved. The information on Page 11-23 states where drainage concepts are required. The information on Page 11-24 presents submittal guidelines. The check list on Page 11-25 is used to indicate requests for additional information.

Any subdivision within the Antelope Valley Drainage Basin must pay the County a cash fee for the purpose of contributing to the proposed regional drainage improvements within this watershed. The current fee is $2,000 per single family residential lot, $10,000 per acre for commercial, manufacturing, industrial and mobile home parks and $1,000 per unit for multi-residential units such as apartments and condominiums. The form on Page 11-26 is used to determine the fee based on the current rate established by the Board of Supervisors. The Board of Supervisors can revise the fee rate at any time. The fee must be paid at the time of subdivision recordation at the rate in effect at that time. Therefore, the fee noted in the conditions of tentative map approval can change when the subdivision map is recorded. The developer may receive credit to offset this fee if the developer agrees to provide right-of-way or to construct drainage facilities required by the comprehensive plan to the satisfaction of the Department. Any questions regarding this improvement requirement should be directed to the Drainage Planning/Environmental Section, Planning Division at (818) 458-4308.

Should a reviewer determine if the site is within 1,000 feet of a fill containing decomposable material or an existing or abandoned oil well, the applicant should be advised that before issuing a building permit, approval of methane and other gas abatement procedures must meet the approval of Waste Management Division. (See Section C of Title 26 of the Los Angeles County Code.) A copy of known sanitary landfills and oil well field is assigned to the Section Head.

If the reviewer should suspect that underground petroleum product storage tanks are located on the site, the review sheet should note the facts and the Waste Management Division be so advised.

4. Road, Sewer and Water Section

a. Road Requirements

The highway, street and alley requirements for tentative map approval are established by the Road Permit and Mapping Subunit based on Code requirements and the Master Highway Plan. It is important that the current master plan highway map is utilized. Therefore, the review must be coordinated with Planning Division. Consultation by the reviewer should be made with the Transportation Planning Section of that Division at (818) 458-3552. It should be noted that these maps are updated continuously by the Board of Supervisors and the published maps may not be current. Besides reviewing the latest Highway Master Plan, the latest copies of the Assessors Map, the House Numbering Map and the Street Index Map (Wall Sheet) must be reviewed to determine if the tentative map conforms with the surrounding area.

The minimum design standards and guidelines presented in Chapter 44 of this Manual must also be reviewed to determine if the tentative design configuration will be adequate to meet the requirements presented in this Chapter. Any deviation from these minimum standards and guidelines must be a part of the conditions of the tentative subdivision map approval. Check lists noting conditions of approval for road design at the tentative map stage and the design stage have been developed to cover most road design requirements. Any deviations requiring Department approval must be noted on the tentative map check list.

The reviewer in the Road Permit and Mapping Subunit is also responsible for enforcing comments from Planning, Traffic and Lighting and Road Maintenance Divisions. The tentative map check list for Road Design is laid out to meet this responsibility. This check list and report for tentative tract and parcel maps is on Pages 11-27 through 11-31 for subdivisions within County unincorporated territory and Pages 11-32 through 11-34 for subdivisions within Contract Cities in which the Department assists the City's Planning Department. Once the check list has been completed by the Subunit, it is sent to the Section Head for approval.

If the subdivision is within an existing or proposed "Bridge and Major Thoroughfare Construction Fee District", the appropriate procedure instructions, forms and agreements prepared by Planning Division beginning on Page 11-35 must be presented to the developer by the Road Plan Checker. The fee schedule which accomplishes each fee calculation form must be reviewed and the applicable fee rates noted on the conditions of subdivision approval (see instructions on Pages 11-35 through 11-40). The boundaries of all existing or proposed "Bridge and Major Thoroughfare Construction Fee Districts" are plotted on maps issued by Planning Division. It should be noted that fees may change at any time from those quoted in the conditions of subdivision map approval by the Board of Supervisors. The developer will be required to pay a fee based on the rate in affect at the time of the subdivision map recordation. The forms and guidelines for each District needed to satisfy County requirements are on Pages 11-41

through 11-74. Any questions regarding these Districts should be referred to the Transportation Planning Section of Planning Division at (818) 458-4352.

If the fee for an adopted District is based on the subdivision area or units, the assessment fee must be paid to Development Management Section prior to final map recordation. (See Chapter 12 of this Manual.) If the fee for an adopted District is based on building areas, the fee must be paid to Building and Safety Division prior to issuing Building Permits. (See Chapter 16 of this Manual).

An agreement to pay the assessment fees within proposed Districts must be submitted by the developer to Development Management Section prior to subdivision recordation.

The Form "48-0040 DPW" (formerly RD490) must be completed and processed in accordance with the instructions prior to issuance of any building permits.

b. Sewage Disposal Requirements

The sewage disposal requirements for tentative map approval are established by the Sewer Subunit based on Code requirements. The main goal of the tentative map review by the Sewer Subunit is to determine if sewer service is available. If there is no sewer service available within the immediate area of the subdivision, it becomes the responsibility of the County Health Department to establish the requirements for a private waste disposal system. (See Chapter 24 of this Manual.) The check list on Page 11-77 has been developed to note the requirements that must be met before the final map can be approved. This usually requires constructing a private contract sewer and/or house laterals to existing sewers.

c. Water Supply Requirements

The water supply requirements for tentative subdivision map approval are established by the Water Code Subunit based on Code requirements. Depending upon the subdivision, one of the procedures below are to be followed.

1/ Tentative Tract Maps

The tentative tract map is investigated as to the availability of water. This includes researching records to determine if there is sufficient water to serve the proposed development for domestic and fire water demands. The conditions of tentative map approval must contain the requirements for providing water to serve the development. These conditions may vary from expanding or upgrading an existing water system operated under an existing public utility, to designing and constructing a new water system under a newly established water purveyor.

2/ Tentative Parcel Maps with Parcels Less than Five Acres

The tentative parcel map with parcels five acres or less in size is investigated as to the availability of water. This includes researching records to determine if there is an existing water purveyor serving the parcel with adequate pressure for domestic and fire flows that meet Fire Department requirements. Before the review is completed, the reviewer must coordinate and ascertain Fire Department requirements so that unnecessary conditions of approval can be avoided. Parcel maps with existing primary structures on each parcel receiving water from a system that meets Fire Department requirements may be approved without conditions.

3/ Tentative Parcel map with Parcels Five Acres or Greater

Parcel Maps with parcels greater than five acres in size are approved without conditions.

A check list shown on Pages 11-79 and 80, is completed after analyzing the subdivision as described above. Once the check list has been completed it is sent to the Water Code Subunit Head for approval.

Required reports from the Fire Department on each tentative subdivision map are submitted directly to the Subdivision Committee of Regional Planning Department and to the Water Code Enforcement Subunit of the Department of Public Works by that Department.

d. Procedures for Hazardous Waste

Should a reviewer determine if the site is within 1,000 feet of a fill containing decomposable material or an existing or abandoned oil well, the applicant should be advised that before issuing a building permit, approval of methane and other gas abatement procedures must meet the approval of the Waste Management Division. (See Section 308c of Title 26 of the Los Angeles County Code.) A copy of known sanitary landfills and oil well field is assigned to the Section Head.

If any reviewer suspects that underground petroleum product storage tanks may be located on the site, the reviewer should note the facts on his/her review sheet and Waste Management Division is to be advised.

5. Materials Engineering Division

The Materials Engineering Division reviews all subdivisions. The Geology Development Review Unit is responsible for processing and coordinating all tentative maps for the Division. During the initial review, the engineering geologists of the Unit determine if a geotechnical engineering and/or geology reports will be required. Guidelines for engineering geology and geotechnical engineering reports are presented in Chapter 49 of this Manual.

Geotechnical reports submitted are reviewed by the Geology and Soils Development Review Units. Action and comments are presented in review sheets which are coordinated and sent to the consultants and the Development Management Section of the Building and Safety/Land Development Division by the Geology Unit. An addendum geotechnical report may be necessary, as allowed in Section 66491 of the State Governmental Code, for geotechnical approval.

If the site is within 1,000 feet of a fill containing decomposable material or an existing or abandoned oil well, or if a storage tank is on-site, input from the Waste Management Division should be obtained by the applicant. The applicant is advised that before issuing a building permit, approval of methane and other gas abatement procedures must meet the approval of the Waste Management Division. (See Section 308c of Title 26 of the Los Angeles County Code.)

E. Submittals and Resubmittals

Once the initial subdivision reviews are completed, the following process occur: Planning Division, Traffic and Lighting Division, and Road Maintenance will send their comments to the Road Permit and Mapping Subunit of the Road, Sewer and Water Section to be incorporated into the Road review. Five comment sets are sent back to the Subdivision Subunit of the Development Management Section as follows: Road comments, Geology and Soils comments, Drainage and Grading comments, Sewer

comments and Water comments. The comments, submitted on special forms or review sheets, recommend approval, approval with conditions or denial pending additional information.

If additional geotechnical or drainage information is requested, review sheets are sent to the owner's agent and a resubmittal is requested in those areas that the additional information is needed. When the Subdivision Committee hearing date approaches, the various comments from all units are packaged by the Subdivision Subunit personnel and presented to the engineer, owner and developer at the scheduled Subdivision Committee meeting. The Subdivision Committee meeting date is set by the Regional Planning Department when a new or revised tentative subdivision map is submitted.

If corrections on a previously reviewed tentative map are minor in nature, the tentative map may not be rescheduled for committee meeting. The maps are distributed but not necessarily reviewed by each section. The Subdivision Subunit of Development Management Section reviews the maps, discuss revisions with affected sections and revise previous reports as necessary.

Additional information required by any reviewing unit may be submitted through the Land Development Processing Center. A post card, Form A must be completed. (See Pages 12-6 and 12-7 in Chapter 12 of this Manual.) It will be of great assistance in the processing if the name of the reviewer is noted on the submitted post card. It is very important that work being reviewed by a private consultant be noted on this card and that the counter personnel are advised. For further information contact the program coordinator at (818) 458-4930.

A post card need not be completed when approved tracings are returned with the required signatures.

F. Tentative Map Processing

Once the Department of Public Works and all other involved County Departments recommend tentative approval, the proposed subdivision is scheduled by the Department of Regional Planning for a public hearing before either a Hearing Officer ("non-controversial" cases) or the Regional Planning Commission. The California Government Code (Section 66452.1 and 66452.2) requires that action by either the advisory agency or legislative body must be within 50 days of filing of an application, certification of the environmental impact report, adoption of a negative declaration or a determination by the local agency that the project is exempt from the requirements of the Environmental Quality Act (see Chapter 51 of this Manual) whichever action occurs last. In accordance with Section 66452.3 if no action is taken by the local agency, the tentative subdivision map shall be deemed to be approved as to complying with both State and local codes.

At this time the Engineer/Developer may appeal any conditions recommended by the Subdivision Committee and the public may voice support or opposition to the proposed subdivision. The Planning Commission/Hearing Officer then acts upon the recommendations of the Subdivision Committee and either approves, conditionally approves or denies the proposed subdivision. All decisions by the Hearing Officer may be appealed to the Planning Commission whose decision, in turn, may be appealed to the Board of Supervisors.

The Regional Planning Commission considers many aspects in the approval or denial process. Some of these aspects are zoning, general and local plans, neighborhood considerations, aesthetic conditions, and design.

Once the tentative tract and/or parcel map has received tentative approval, which is generally good for two years with an allowable one extension per year for up to three years, the developer can then proceed towards final map approval by meeting all conditions imposed on the tentative map.

While most local agencies can set terms of tentative map approvals, and extensions of time, Section 66452.6 of the California Government Code sets requirements which local agencies must enforce.

G. Coordinated Subdivision Processing (CSP) Program

Once the tentative map has been approved by Regional Planning Department and the Hydrology Study approved by Drainage and Grading Section, the Developer has the option to participate in the Coordinated Subdivision Processing (CSP) Program. This program is designed to shorten processing time by having the developer submit all development plans and the final subdivision map at the same time. The Department will coordinate the review of the materials and meet with the developer to discuss any required corrections. The procedure is presented on Pages 11-83 through 11-85. The form containing the initial document submittal requirements is on Pages 11-86 through 11-91. All questions regarding this program should be directed to LDMA at (818) 458-4932.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
LAND DEVELOPMENT PROCESSING CENTER
Request for Assignment of Tract or Parcel Map Number

( ) TRACT ( ) PARCEL NO. _____

UNIT OF _____

SUPERVISORIAL DISTRICT ____ CITY OF _____

SUBDIVIDER'S NAME _____

SUBDIVIDER'S ADDRESS _____

CITY _____ STATE ____ ZIP CODE _____

SUBDIVIDER'S TELEPHONE NO. _____

LEGAL DESCRIPTION OF TENTATIVE SUBDIVISION

( ) PORTION OF _____

_____

( ) PORTION OF LOT/PARCEL _____ TR NO./PARCEL MAP NO. _____

BOOK _____ PAGE _____

SECTION #_____TOWNSHIP _____

RANGE_____OTHER_____

_____

NUMBER ISSUED TO

Name_____ * L.S.( ) or R.C.E.( ) No._____

Signature_____ Expiration Date _____

Firm_____

Address_____

City_____ State_____ Zip_____

Telephone No. _____

Date Submitted _____

*L.S. and R.C.E. Numbers are not required for Parcel Map No.

MC:ds/TR
09/24/92

PROJECT MASTER RECORD

PROJ#: TRACT#: PM#: AREA:

ADDRESS:

TOM GUIDE: NO LOTS: NO UNITS: ACREAGE:

UNIT OF: INDEX MAP: START: PROJ M:

UNITS:

OUTSIDE CONT: CONT PHONE:

CONTACT ADDRESS:

APPLICANT APPL PHONE:

APPLIC ADDRESS:

ENG SUR: ENG SUR PHONE:

ENG SUR ADDRESS:

FILED:

GRADING PLAN: GRADING PERMIT:

BLDG PLAN: BLDG PERMIT: SEWER PLAN:

SEWER PERMIT: STORM PLAN: STORM PERMIT:

DESIRE COMP TM: DESIRE COMP FM: DESIRE COMP CONS:

TENT APRV EXPIRE: DEV AGREE#:

ZONING EX: ZONING-PROP:

GEN PLAN: GEN PLAN AMEND: COMMUNITY PLAN: VAR NO:

ZONE CHANGE: COND USE PERMIT SD: DEEDED STREET:

CASE: LOW MOD INCM HSE: HWY PERMIT:

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

The following report consisting of _____ pages are the recommendations of the Department of Public Works. The following comments/requirements for this tentative map are indicated by an X in the appropriate box along the left margin of the page.

☐ Details and notes shown on the tentative map are not necessarily approved. Any details or notes which may be inconsistent with requirements of ordinances, general conditions of approval, or Department policies must be specifically approved in other conditions, or ordinance requirements are modified to those shown on the tentative map upon approval by the Advisory agency.

☐ The distances from the proposed lot/parcel lines to the buildings which are to remain must be shown. If such distances will create nonconforming conditions under Building Code Chapters 5, 18, 19 and 21 or Zoning Ordinance requirements, such lot/parcel lines shall be relocated or the non-complying conditions of the buildings shall be corrected prior to the division of land.

☐ The relationship of existing buildings/sewage disposal component to the new lot/parcel lines will create conditions that do not comply with the Building Code/Plumbing Code/Zoning Ordinance. These non-complying conditions shall be corrected or the lot/parcel lines relocated prior to the division of land.

☐ Easements are tentatively required, subject to review by the Director of Public Works to determine the final locations and requirements.

☐ Easements shall not be granted or recorded within areas proposed to be granted, dedicated, or offered for dedication for public streets, highways, access rights, building restriction rights, or other easements until after the final map is filed with the County Recorder. If easements are granted after the date of tentative approval, a subordination must be executed by the easement holder prior to the filing of the final map.

☐ In lieu of establishing the final specific locations of structures on each lot/parcel at this time, the owner, at the time of issuance of a grading or building permit, agrees to develop the property in conformance with the County Code and other appropriate ordinances such as the Building Code, Plumbing Code, Grading Ordinance, Highway Permit Ordinance, Mechanical Code, Zoning Ordinance, Undergrounding of Utilities Ordinance, Water Ordinance, Sanitary Sewer and Industrial Waste Ordinance, Electrical Code, and Fire Code. Improvements and other requirements may be imposed pursuant to such codes and ordinances.

☐ Prior to final approval, arrangements will be made for the County to accept _____ as offered on _____ filed in _____.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

☐ Prior to issuance of a permit or other grant of approval for development of the designated remainder parcel, comply with the following:

- ☐ The owner at the time of issuance of a permit or other grant of approval for development over the designated remainder parcel, shall develop the property in conformance with the County Code and other appropriate ordinances such as the Building Code, Plumbing Code, Grading Ordinance, Highway Permit Ordinance, Mechanical Code, Zoning Ordinance, Undergrounding of Utilities Ordinance, Water Ordinance, Sanitary Sewer and Industrial Waste Ordinance, Electrical Code, and Fire Code.
- ☐ Provide drainage facilities to eliminate the flood hazard to the satisfaction of the Department.
- ☐ Connect to a mainline sanitary sewer to the satisfaction of the Department.
- ☐ Provide water facilities to the satisfaction of the Department.
- ☐ Provide road right of way and construct street improvements to the satisfaction of the Department.
- ☐ Provide easements to the satisfaction of the Department.
- ☐ Eliminate any geologic and soil hazards to the satisfaction of the Department.
- ☐ Additional Comments/Requirements: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name _____ Phone _____ Date _____

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

☐ Adjust, relocate, and/or eliminate lot lines, lots, streets, easements, grading, geotechnical protective devices, and/or physical improvements to comply with ordinances, policies, and standards in effect at the date the County determined the application to be complete all to the satisfaction of this Department.

☐ Additional Comments/Requirements: _____

Name _____ Phone _____ Date _____

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

☐ It appears that off-site improvements are necessary to adequately serve this development. If off-site easements are required, this tentative map approval is subject to the subdivider's acceptance of the following conditions for acquisition of these easements:

a. Subdivider shall secure at the subdivider's expense sufficient title or interest in land to permit any off-site improvements to be made.

b. If the subdivider is unable to acquire sufficient title or interest to permit the off-site improvements to be made, the subdivider shall notify the County of this inability not less than six months prior to approval of the final map.

c. In such case, the County may thereafter acquire sufficient interest in the land which will permit the off-site improvements to be made by subdivider.

d. Subdivider shall pay all of the County's costs of acquiring said off-site property interests pursuant to Government Code Section 66462.5. Subdivider shall pay such costs irrespective of whether the final map is recorded or whether a reversion occurs. The cost of acquisition may include, but is not limited to, acquisition prices, damages, engineering services, expert fees, title examination, appraisal costs, acquisition services, relocation assistance services and payments, legal services and fees, mapping services, document preparation, expenses and/or damages as provided under Code of Civil Procedure Sections 1268.510-.620 and overhead.

e. At the time subdivider notifies County as provided in b. hereinabove, the subdivider shall simultaneously submit to the County in a form acceptable to the County all appropriate appraisals, engineering specifications, legal land descriptions, plans, pleadings and other documents deemed necessary by County to commence its acquisition proceedings. Said documents must be submitted to County for preliminary review and comment at least thirty days prior to subdivider's notice described hereinabove at b.

f. Subdivider agrees to deposit with County, within five days of request by County, such sums of money as County estimates to be required for the costs of acquisition. County may require additional deposits from time to time.

g. Subdivider agrees that County will have satisfied the one hundred and twenty day limitation of Government Code Section 66462.5 and the foregoing conditions relating thereto when it files its eminent domain action in superior court within said time period.

h. Subdivider shall not sell any lot/parcel shown on the final map until County has acquired said sufficient land interest.

i. If the superior court thereafter rules in a final judgement that the County may not acquire said sufficient land interest, the subdivider agrees that the County may initiate proceedings for reversion to acreage.

j. Subdivider shall execute any agreement or agreements mutually agreeable prior to approval of the final map as may be necessary to assure compliance with the foregoing conditions.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

k. Failure by the subdivider to notify County, as required by b. hereinabove, or simultaneously submit the required and approved documents specified in e. hereinabove, or make the deposits specified in f. hereinabove shall constitute subdivider's waiver of the requirements otherwise imposed upon County to acquire necessary interests in land pursuant to Section 66462.5. In such event, subdivider shall meet all conditions for installing or constructing off-site improvements notwithstanding Section 66462.5.

☐ Comments/Additional Requirements: _____

Name _____ Phone _____ Date _____

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - SUBDIVISION SECTION

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

☐ Thirty days prior to requesting final approval of the tract/parcel map submit gummed mailing labels for each tenant in the structure to be converted, a notarized affidavit signed by all of the owners listing all vacant units, a minimum deposit of twenty-five ($25) dollars for each occupied unit, and recorded copies of all covenants and agreements applicable to this conversion project to the Director of Public Works. Copies of the covenants and agreements must be mailed to all tenants by the applicant at least thirty days prior to final approval.

☐ Prior to final approval of the tract/parcel map submit a notarized affidavit to the Director of Public Works, signed by all owners of record at the time of filing of the map with the County Recorder, stating that any proposed condominium building has not been constructed or that all buildings have not been occupied or rented and that said building will not be occupied or rented until after the filing of the map with the County Recorder.

☐ All easements existing at the time of final map approval must be accounted for on the approved tentative map. This includes the location, owner, purpose, and recording reference for all existing easements. If an easement is blanket or indeterminate in nature, a statement to that effect must be shown on the tentative map in lieu of its location. If all easements have not been accounted for, submit a corrected tentative map to the Department of Regional Planning for approval.

☐ Furnish this Department's Street Name Unit with a list of street names acceptable to the subdivider. These names must not be duplicated within a radius of 20 miles.

☐ A Mapping and Property Management Division house numbering clearance is required prior to approval of the final map.

☐ The following note shall be placed on all tract and parcel maps with lot/parcel sizes of five acres or more: "Further division of this property to lot/parcel sizes below five acres will require standard improvements be completed as a condition of approval . The improvements will include but not be limited to providing access, installation of water mains, appurtenances and fire hydrants, and conformance to Los Angeles County development standards."

☐ Place standard condominium/residential planned development/commercial planned development/Landscape Maintenance District notes on the final map to the satisfaction of the Department.

☐ Place standard lease purpose only/division of land for lease purpose only notes on the final map to the satisfaction of the Department.

☐ Label driveways and multiple access strips as "Private Driveway and Fire Lane" and delineate on the final map to the satisfaction of the Department.

☐ If unit filing occurs, reserve reciprocal ingress and egress easements in documents over the private driveways and delineate on the final map to the satisfaction of the Department.

☐ Place a note on the final map to the satisfaction of the Department to convey as a unit both portions of ownership within lot/parcel _____, separated by _____, and connect said portions with a standard land hook.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - SUBDIVISION SECTION

TRACT/PARCEL MAP NO._____ TENTATIVE MAP DATED _____

☐ Remove existing structures prior to final approval.

☐ Delineate proof of access to a public highway on the final map.

☐ Quitclaim or relocate easements running through proposed structures.

☐ A final tract or parcel map must be processed through the Director of Public Works prior to being filed with County Recorder./, unless the final parcel map is waived by the Advisory Agency.

☐ Prior to submitting the tract or parcel map to the Director of Public Works for examination pursuant to Sections 66442 or 66450 of the Government Code, obtain clearances from all affected Departments and Divisions, including a clearance from the Subdivision Section of the Land Development Division of this Department for the following mapping items; mathematical accuracy; survey analysis; and correctness of certificates, signatures, etc.

☐ If the subdivider intends to file multiple final maps, he must so inform the Advisory Agency at the time the tentative map is filed. The boundaries of the unit final maps shall be designed to the satisfaction of the Director of Public Works and the Department of Regional Planning.

☐ The first unit of this subdivision shall be filed as Tract No. _____-01, the second unit, Tract No. _____-02, ... and the last unit, Tract No. _____.

☐ Show the remainder of the last legally created parcel as "Not a Part" on any final map to the satisfaction of the Director of Public Works.

☐ Extend lot/parcel lines to the center of private and future streets.

☐ If signatures of record title interests appear on the final map, a preliminary guarantee is needed. A final guarantee will be required. If said signatures do not appear on the final map, a title report/guarantee is needed showing all fee owners and interest holders and this account must remain open until the final parcel map is filed with the County Recorder.

☐ Additional Comments/Requirements:_____

_____

_____

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_____

Name_____ Phone_____ Date_____

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - DRAINAGE AND GRADING SECTION - TENTATIVE SUBDIVISION MAP REVIEW

TRACT/PARCEL MAP NO. _____ TENTATIVE SUBDIVISION MAP DATED _____

REVISED TENTATIVE MAP DATED _____

[ ] The existing property is reasonably free of flood hazard.

[ ] Portions of the existing property lying in and adjacent to the natural drainage courses are subject to flood hazard.

[ ] Portions of the existing property lying in and adjacent to _____ are subject to flood hazard because of (tidal and wave action), (overflow, inundation, and debris flows).

[ ] Portions of the existing property are subject to sheet overflow, ponding, and high velocity scouring action.

[ ] Comply with the following requirements to the satisfaction of the Director of Public Works prior to the filing of the final map:

[ ] Provide drainage facilities to remove the flood hazard and dedicate and show necessary easements and/or right of way on the final map.

[ ] Place a note of flood hazard on the final map and delineate the areas subject to flood hazard. Dedicate to the County the right to restrict the erection of buildings in the flood hazard area. This note will be allowed on _____.

[ ] Place a note of flood hazard on the final map and show and label all natural drainage courses. This note will be allowed on _____.

[ ] If a Grant of Waiver is allowed, the flood hazard note (and area) shall be shown on (a plat which is made part of) the waiver.

[ ] Show the County's/Flood Control District's right of way for _____ on the final map. A permit will be required for any construction affecting the right of way or facilities.

[ ] Prior to issuance of building permits plans must be approved to:

[ ] Eliminate the sheet overflow, ponding, and protect the lots from high velocity scouring action.

[ ] Provide for contributory drainage from adjoining properties.

[ ] Provide for the proper distribution of drainage.

[ ] Prior to approval of the final map, the subdivider shall be required to pay the County a cash fee for the purpose of contributing to the proposed regional drainage improvements in the Antelope Valley. The fee amount shall be the amount in effect at the time of recordation. The current fee is _____ _____.

[ ] Prior to approval of the final map, the subdivider shall be required to enter into an agreement with the County to establish a Drainage Benefit Assessment Area for the maintenance of the drainage facilities.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - DRAINAGE AND GRADING SECTION - TENTATIVE SUBDIVISION MAP REVIEW (Cont.)

TRACT/PARCEL MAP NO. ______________ TENTATIVE SUBDIVISION MAP DATED __________

REVISED TENTATIVE SUBDIVISION MAP DATED __________

[ ] Notify the State Department of Fish and Game prior to commencement of work within any natural drainage course.

[ ] Contact the Corps of Engineers to determine if a 404 Permit is required for any proposed work within the major watercourse. Provide a copy of the 404 Permit upon processing of the drainage plans. Conditions of this permit must be compatible with the Department of Public Works maintenance criteria.

[ ] This site is located in Zone "A" per the Federal Flood Insurance Rate Map. The Department of Public Works, Planning Division (818)458-4322, should be contacted to obtain procedures for revising the flood insurance rate map once the storm drain facilities are constructed.

[ ] A deposit is required to review documents and plans for final map clearance in accordance with Section 21.36.010(c) of the Subdivision Ordinance.

[ ] Comply with the requirements of the drainage concept approved ______________ to the satisfaction of the Department of Public Works.

[ ] Approval of this map pertaining to drainage is recommended.

[ ] Comments/Additional Requirements: ________________________________

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[ ] A grading plan and soils report must be submitted and approved prior to approval of the final map.

[ ] The tentative map shows that proposed slopes will cross lot/parcel lines. For approval of grading plans, these slopes or lot/parcel lines shall be adjusted so that lot/parcel lines are located at the top of the slopes, along the outside edge of the drainage terraces, or at similar locations acceptable for establishment of slope maintenance responsibilities.

[ ] A Conditional Use Permit will probably be required. (See Item D,3 on Page 11-3.)

[ ] A deposit is required to review documents and plans for final map clearance in accordance with Section 21.36.010(c) of the Subdivision Ordinance.

[ ] Approval of this map pertaining to grading is recommended.

[ ] Comments/Additional Requirements: ________________________________

____

Reviewed by ______________________ Date __________ Phone (818) 458-4921

CITY ENGINEER/SUPERINTENDENT OF STREETSCITY OF _____
LAND DEVELOPMENT DIVISION - DRAINAGE AND GRADING SECTION - TENTATIVE SUBDIVISION MAP REVIEW

TRACT/PARCEL MAP NO. _____ TENTATIVE SUBDIVISION MAP DATED _____

REVISED TENTATIVE SUBDIVISION MAP DATED _____

[ ] The existing property is reasonably free of flood hazard.

[ ] Portions of the existing property lying in and adjacent to the natural drainage courses are subject to flood hazard.

[ ] Portions of the existing property lying in and adjacent to _____ are subject to flood hazard because of (tidal and wave action), (overflow, inundation, and debris flows).

[ ] Portions of the existing property are subject to sheet overflow, ponding, and high velocity scouring action.

[ ] Comply with the following requirements to the satisfaction of the Director of Public Works prior to the filing of the final map:

[ ] Provide drainage facilities to remove the flood hazard and dedicate and show necessary easements and/or right of way on the final map.

[ ] Place a note of flood hazard on the final map and delineate the areas subject to flood hazard. Dedicate to the City the right to restrict the erection of buildings in the flood hazard area. This note will be allowed on _____.

[ ] Place a note of flood hazard on the final map and show and label all natural drainage courses. This note will be allowed on _____.

[ ] If a Grant of Waiver is allowed, the flood hazard note (and area) shall be shown on (a plat which is made part of) the waiver.

[ ] Show the City's/Flood Control District's right of way for _____ on the final map. A permit will be required for any construction affecting the right of way or facilities.

[ ] Prior to issuance of building permits plans must be approved to:

[ ] Eliminate the sheet overflow, ponding, and protect the lots from high velocity scouring action.

[ ] Provide for contributory drainage from adjoining properties.

[ ] Provide for the proper distribution of drainage.

[ ] Notify the State Department of Fish and Game prior to commencement of work within any natural drainage course.

[ ] Contact the Corps of Engineers to determine if a 404 Permit is required for any proposed work within the major watercourse. Provide a copy of the 404 Permit upon processing of the drainage plans. Conditions of this permit must be compatible with the Department of Public Works maintenance criteria.

CITY ENGINEER/SUPERINTENDENT OF STREETSCITY OF______________________________
LAND DEVELOPMENT DIVISION - DRAINAGE AND GRADING SECTION - TENTATIVE SUBDIVISION MAP REVIEW (Cont.)

TRACT/PARCEL MAP NO. ______________ TENTATIVE SUBDIVISION MAP DATED _________

REVISED TENTATIVE SUBDIVISION MAP DATED _________

[ ] This site is located in Zone "A" per the Federal Flood Insurance Rate Map. The Department of Public Works, Planning Division (818)458-4322, should be contacted to obtain procedures for revising the flood insurance rate map once the storm drain facilities are constructed.

[ ] A deposit is required to review documents and plans for final map clearance in accordance with Section 21.36.010(c) of the Subdivision Ordinance.

[ ] Comply with the requirements of the drainage concept approved______________to the satisfaction of the Department of Public Works.

[ ] Approval of this map pertaining to drainage is recommended.

[ ] Comments/Additional Requirements:____

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[ ] A grading plan and soils report must be submitted and approved prior to approval of the final map.

[ ] The tentative map shows that proposed slopes will cross lot/parcel lines. For approval of grading plans, these slopes or lot/parcel lines shall be adjusted so that lot/parcel lines are located at the top of the slopes, along the outside edge of the drainage terraces, or at similar locations acceptable for establishment of slope maintenance responsibilities.

[ ] A deposit is required to review documents and plans for final map clearance in accordance with Section 21.36.010(c) of the Subdivision Ordinance.

[ ] Approval of this map pertaining to grading is recommended.

[ ] Comments/Additional Requirements:____

____

Name __________________________________ Date ______________ Phone (818)458-4921

HANDED OUT AT 2/8/89 LDAC MTG. B2 CLB

February 8, 1989

TO: Land Development Advisory Committee

FROM: Carl L. Blum
Land Development Division

CLB

DRAINAGE CONCEPTS

A Drainage Concept will be required prior to tentative map approval when any of the following conditions listed below exist:

1. Hillside subdivisions with contributory (5 acres or greater) undeveloped drainage areas where drainage improvements are required.

   The concept submittal shall include: An offsite and onsite drainage area map with debris production areas identified and debris quantities listed. Grading for the debris basins must be shown on the tentative map, and a soils and geology statement must be submitted to substantiate the suitable location of basin facilities.

   A final design hydrology will be required prior to submitting improvement plans.

2. 5 acre or greater single family residential or commercial subdivisions in the Antelope Valley and Acton area.

   The concept submittal shall include: An offsite and onsite drainage area map, and before and after calculations indicating the incremental increase in flow and volume due to the development.

   There are then two choices: 1) In lieu of more precise calculations, use 2cfs/acre for offsite, and use Q=CIA and assume times of concentration of 5 minutes for the onsite drainage areas. Evaluate the impact of calculated flow rates as they affect street drainage criteria. 2) If a detailed hydrology study is made at this time it will preclude the need for further analysis upon submittal of the improvement plans.

3. Subdivisions where required drainage facilities would connect or outlet into an identified downstream restricted capacity drain or an inadequate outlet situation.

   A detailed hydrology indicating the Q's resulting from the development is required. No additional hydrology will be required at the final map stage unless significant changes are made to the approved tentative map or proposed improvements.

DE:mge
(Draincon)

LAND DEVELOPMENT DIVISION

DRAINAGE AND GRADING SECTION

GUIDELINES FOR DRAINAGE CONCEPT SUBMITTALS

The following information should be submitted with drainage concepts:

1. Preliminary hydrology with debris production areas identified and debris quantities listed. (Including offsite tributary arrears).

2. Line identification of all proposed drainage facilities.

3. Location, size, and hydraulic capacities of existing drainage and flood control structures.

4. Preliminary soils and geology reports related to debris basins and retention/detention basins (as Needed based on geographic and topographic conditions).

5. Approximate flood hazard and bank erosion setbacks and lot identifications (as needed).

6. Solutions to unique pad lot drainage.

7. Engineering calculations to support sizing of retention/detention basins.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - DRAINAGE AND GRADING SECTION

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

☐ Portions of the property lying in and adjacent to natural drainage courses, are subject to flood hazard.

☐ Portions of the property are subject to sheet overflow, and ponding, and high velocity scouring action.

A drainage concept is requested prior to tentative approval of the map when one or more of the following conditions exist:

1. Hillside development with contributory (5 acres or greater) undeveloped drainage areas and drainage improvements required.

2. Inadequate outlet conditions or identified downstream restricted capacity storm drains.

3. Urban density single family residential or commercial developments, 5 acres or greater in size in the Antelope Valley and Acton area.

4. Developments encroaching into identified floodways, Antelope Valley Master Drainage Plan System or other documented flood prone areas.

5. The development may adversely impact the surrounding area relative to flood hazards.

☐ Prior to tentative map approval, submit a drainage concept with the following information:

1. Hydrology with debris production areas identified and debris quantities listed. (including offsite tributary areas).

2. Line identification of all proposed drainage facilities. Location of adopted and proposed floodways.

3. Location, size, and hydraulic capacities of existing drainage and flood control structures.

4. Preliminary soils and geology reports related to debris basins and retention/detention basins (as needed based on geographic and known adverse geotechnical conditions).

5. Approximate flood hazard and bank erosion setbacks and lot identifications (as needed).

6. Solutions to pad lot drainage where there is contributary undeveloped drainage affecting the lot.

7. Engineering calculations to support sizing of retention/detention basins.

8. Slopes for existing and proposed streets.

9. Applicable notes.

☐ Submit a Tentative Map showing proposed grading.

Comments: _____

_____

By _____ Phone (818) 458-4921 Date _____

Rev. 11/88

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
ANTELOPE VALLEY DRAINAGE FEE FUND DATA SHEET
FUND NO. CAPS V42/FIRM 08418

Name of Depositor _____ TR/PM No: _____

Address of Depositor _____ Unit of: _____

_____ CUP No: _____

Telephone of Depositor _____

Zoning Present _____ Proposed _____ Acres _____ Lots Exist_____

Prop. _____

Land Use Determination

Single Family Residential: _____ (No. of Lots) X $ 2,000 = $ _____

Commercial, Manufacturing, or Industrial: _____ (No. of Acres) X $10,000 = $ _____

Multi-Dwelling Unit (Condo. & Apt.): _____ (No. of Units) X $ 1,000 = $ _____

Mobil Home Parks:
(conditioned at CUP review) _____ (No. of Acres) X $ 1,000 = $ _____

Drainage Fee = $ _____

Credit for Right of Way Dedicated to the County:
(See attached documentation) _____ (Acres) _____ ($/Acres) = $ _____

Credit for Construction of Comprehensive Plan Facility:
(See attached calculations submitted by developer) = $ _____

TOTAL CREDIT = $ _____
(not to exceed drainage feed)
TOTAL DRAINAGE FEE = $ _____
(Drainage Fee - Total Credits)

CHECKER'S NAME:_____

DATE:_____

cc: Land Development Division (3) (Drainage & Grading Section, Development Management Section (2), Fiscal Division (Accounting Receiving), Planning Division.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION-ROAD UNIT-TENTATIVE MAP REVIEW

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

[ ] The subdivider shall prepare a separate signing and striping plan for all multi-lane streets and highways within or abutting this land division to the satisfaction of the Department.

[ ] The centerlines of all local streets shall be aligned without creating jogs of less than 150 feet. A one foot jog may be used where a streets changes width from 60 feet to a 58 feet of way.

[ ] The minimum centerline radius is 350 feet on all local streets with 40 feet between curbs and on all streets where grades exceed 10%.

[ ] The minimum centerline radius on a local street with an intersecting street on the concave side must comply with design speed requirements in Chapter 44.

[ ] Design local streets to have minimum centerline curve radii which will provide centerline curves of 100 feet minimum length. The length of curve must be outside of any BCR and intersecting streets.

[ ] Compound curves are preferred over broken-back curves (Two curves with a short tangent). Broken-back curves must be separated by a minimum of 200 feet of tangent for a two lane street and 1,000 feet for multi-lane highways.

[ ] The central angles of the right of way radius returns shall not differ by more than 10 degrees on local streets.

[ ] Provide standard property line return radii of 13 feet at all local street intersections, including intersection of local streets with General Plan Highways, and 27 feet where all General Plan Highways intersect, or to the satisfaction of the Department.

[ ] Provide drainage improvement design and offer easements needed for street drainage or slopes.

[ ] All driveways to be abandoned shall be replaced with standard curb, gutter, and sidewalk.

[ ] Have a note that requires the repair of any broken or damaged curb, gutter, sidewalk, and pavement on streets within or abutting the subdivision.

[ ] Additional pavement on partially improved highways are required to provide a striped (left-turn and/or right-turn) lane at entrance street intersection(s) to the satisfaction of the Department of Public Works.

[ ] Driveways will not be permitted within 25 feet upstream of any catch basins when street grades exceed 6%.

[ ] A full width sidewalk is to be provided at all walk returns.

[ ] A slough wall is to be placed outside the street right of way when the height of slope is greater than five feet above the sidewalk and the sidewalk is adjacent to edge of street right of way.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - ROAD UNIT - TENTATIVE MAP REVIEW (CONT.)

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

[ ] Provide and install street name signs prior to occupancy of any building(s).

[ ] Prior to final approval, the subdivider shall enter into an agreement with the County franchised cable t.v. operator (if within a Service Area) to permit the installation of cable in a common utility trench.

[ ] Whenever there is an offer of a future street or a private and future street, provide a drainage statement/letter.

[ ] Whenever the centerline of the existing pavement does not coincide with the record centerline, provide a new centerline to the satisfaction of the Department of Public Works.

[ ] If offsite street improvements are required, it shall be the sole responsibility of the developer to acquire the necessary right of way and/or easements.

[ ] Provide a horizontal and vertical alignment of _____ mph on _____ per the current Caltrans Highway Design Manual.

[ ] Design the intersections of local streets with Master Plan Highways to provide a _____ mph sight distance from the local street. Additional right of way dedication and/or grading may be required. (See Chapter 44.)

[ ] Bear the cost of any traffic signal relocation or modification at the intersection of_____ and _____. In accordance with the requirements of Traffic and Lighting Division.

[ ] Dedicate right of way _____ feet from centerline on _____.

Dedicate right of way _____ feet from centerline on _____.

Dedicate right of way _____ feet from centerline on _____.

[ ] Make an offer of private and future right of way _____ feet from centerline on _____

_____.

Make an offer of private and future right of way _____ feet from centerline on _____

_____.

[ ] Offsite improvements are tentatively required as follows: _____

_____.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - ROAD UNIT - TENTATIVE MAP REVIEW (cont.)

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

[ ] Existing trees in dedicated right of way or right of way to be dedicated shall be removed if they are not acceptable as street trees.

[ ] All perimeter and interior utility lines shall be placed underground to the satisfaction of the Department of Public Works per Section 21.24.400 of Title 21 of Los Angeles County Code.

[ ] Postal delivery receptacles shall be located behind the sidewalk and installed in groups to serve two or more residential units. (See Chapter 44 for requirements.)

[ ] Make an offer of private and future right of way _____ feet from centerline on _____

_____.

Make an offer of private and future right of way _____ feet from centerline on _____

_____

Make an offer of private and future right of way _____ feet from centerline on _____

_____

[ ] Dedicate slope easements _____ feet wide on _____.

Dedicate slope easements _____ feet wide on _____.

Dedicate slope easements _____ feet wide on _____.

[ ] Dedicate slope easements within the subdivision to the satisfaction of the Department of Public Works on _____. (See Chapter 44.)

[ ] Dedicate the right to restrict vehicular access on _____

_____.

[ ] Dedicate vehicular access rights on _____

_____.

[ ] Construct curb and gutter as shown on the plans and specifications approved by the Department of Public Works _____ feet from centerline on _____.

Construct curb and gutter as shown on the plans and specifications approved by the Department of Public Works _____ feet from centerline on _____.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - ROAD UNIT - TENTATIVE MAP REVIEW (CONT.)

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

[ ] Construct wheelchair ramp at the intersection of _____ and _____ in accordance with CAL/TRANS Requirements as shown on the plans and specifications approved by the Department of Public Works. (See Chapter 44.)

[ ] Construct base and pavement as shown on the plans and specifications approved by the Department of Public Works on _____. (See Chapter 44.)

[ ] Construct drainage facilities as shown on the plans and specifications approved by the Department of Public Works on _____. (See Chapter 44 for design criteria.)

[ ] Construct Sidewalks as shown on the plans and specifications approved by the Department of Public Works on _____.

[ ] Perform grading and provide drainage facilities as shown on the plans and specifications approved by the Department of Public Works on _____.

[ ] Street light(s) is/are required on _____ to the satisfaction of the Department. Contact Street Lighting Section, (818) 458-5926.

[ ] Construct inverted shoulder pavement as shown on the plans and specifications approved by the Department of Public Works _____ feet (lane width) and _____ feet (shoulder width) on _____. (See Chapter 44 for requirements.)

Construct inverted shoulder pavement as shown on the plans and specifications approved by the Department of Public Works _____ feet (lane width) and _____ feet (shoulder width) on _____. (See Chapter 44 for requirements.)

[ ] Street trees must be provided on _____. (See Chapter 44 for requirements.)

[ ] Construct Curb, gutter, base, pavement, sidewalks and street lights as shown on the plans and specifications approved by the Department of Public Works on _____

- _____.

[ ] Permission is granted for street grades up to _____ % only at locations to the satisfaction of the Department.

[ ] Permission is granted to vacate _____. Easements shall be provided for all utility companies that have facilities remaining within the vacated area.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - ROAD UNIT - TENTATIVE MAP REVIEW (CONT.)
TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

[ ] The proposed subdivision is located in the proposed _____ Bridge and Major Thoroughfare Construction Fee District being considered by the Department of Public Works. Prior to final subdivision map approval, enter into a written agreement with the County of Los Angeles, whereby the subdivider agrees to issue a negotiable security to fully guarantee payment of fees for the proposed District upon its formation. The negotiable security shall be based upon the proposed fee rate in effect at the time of the subdivision map recordation. The proposed fee is to be calculated on the latest form for the Proposed District in the procedure on Pages 11-34 through 11-73. These calculations indicate that the current proposed fee is $_____ per_____ and will be subject to change. Should the District be adopted by the Board of Supervisors prior to subdivision recordation, payment of the fee in effect at that time will be required.

[ ] The proposed subdivision is located in the _____ Bridge and Major Thoroughfare Construction Fee District established by the Board of Supervisors. Prior to final subdivision map approval, the subdivider will pay the fee in effect at the time of recordation. The fee is to be calculated on the latest form for the established District in the procedure on Pages 11-34 through 11-73. These calculations indicate that the current fee is $_____ per _____ and will be subject to change.

[ ] A traffic study is required to the satisfaction of the Department. Comply with any additional requirements, if any, as a means of mitigating any traffic impacts as identified in the traffic study approved by this Department. If a Bridge and Major Thoroughfare District is formed and if signals identified in the study are included as facilities specifically identified for inclusion in that approved District, then the amount and eligibility for a credit against your District, then the amount and eligibility for a credit against your District obligation may be given if approved by the Department of Public Works.

[ ] Comments/Additional Requirements: _____

_____

_____

_____

_____

_____

_____

_____.

Name _____ Phone (818) 458-4910 Date _____.

CITY ENGINEER/SUPERINTENDENT OF STREETS (CE1)
LAND DEVELOPMENT DIVISION - ROAD UNIT- TENTATIVE MAP REVIEW

CITY OF _____

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

[ ] The subdivider shall dedicate to the City an easement for public lighting facilities to be coextensive with that grant to the Southern California Edison Company in subdivisions which are served by private streets, private ways, or passeos.

[ ] The centerlines of all local streets shall be aligned without creating jogs of less than 150 feet. A one-foot jog may be used where a street changes width from 60 feet to a 58-foot right-of-way.

[ ] The minimum centerline radius is 350 feet on all local streets with 40 feet between curbs and on all streets where grades exceed 10 percent.

[ ] Design local streets to have minimum centerline curb radii which will provide centerline curves of 100 feet minimum length. Reversing curves need not exceed a radius of 1,500 feet and any curve need not exceed a radius of 3,000 feet. The length of curve outside of the BCR is used to satisfy the 100-foot minimum requirement,

[ ] Compound curves are preferred over broken-back curves. Broken-back curves must be separated by a minimum of 200 feet of tangent.

[ ] The central angles of the right-of-way radius returns shall not differ by more than 10 degrees on local streets.

[ ] Provide standard property line return radii of 13 feet at all local street intersections, including intersection of local streets with General Plan Highways, and 27 feet where all General Plan Highways intersect, or to the satisfaction of the City.

[ ] Construct drainage improvements and offer easements needed for street drainage or slopes.

[ ] Driveways to be abandoned shall be replaced with standard curb, gutter, and sidewalk.

[ ] Repair any broken or damaged curb, gutter, sidewalk, and pavement on streets within or abutting the subdivision.

[ ] Construct additional pavement on partially improved highways to provide a striped left-turn lane at entrance street intersection(s).

[ ] Driveways will not be permitted within 25 feet upstream of any catch basins when street grades exceed six (6) percent.

[ ] Construct full width sidewalk at all walk returns.

[ ] Construct a slough wall outside the street right-of-way when the height of slope is greater than five feet above the sidewalk and the sidewalk is adjacent to the street right-of-way.

[ ] Provide and install street name signs prior to occupancy of building(s).

CITY ENGINEER/SUPERINTENDENT OF STREETS (CE2)
LAND DEVELOPMENT DIVISION - ROAD UNIT- TENTATIVE MAP REVIEW (CONT.)

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

[ ] Offsite improvements are tentatively required.

[ ] Existing trees in dedicated right-of-way or right-of-way to be dedicated shall be removed if they are not acceptable as street trees.

[ ] Postal delivery receptacles shall be located behind the sidewalk and installed in groups to serve two or more residential units.

[ ] Prior to final approval, the subdivider shall enter into an agreement with the City franchised cable TV operator to permit the installment of cable in a common utility trench.

[ ] Whenever there is an offer of future street or a private and future street, provide a drainage statement/letter.

[ ] Whenever the centerline of the existing pavement does not coincide with the road centerline, provide a new centerline to the satisfaction of the Superintendent of Street.

[ ] Design the intersections of local streets with General Plan Highways to provide a _____ mph sight distance along the highway. Additional right-of-way dedication and/or grading may be required.

[ ] Bear the cost of any traffic signal relocation or modification at the intersection of _____

_____ and _____.

[ ] Dedicate [ ] Offer Private and Future [ ] Offer Future

right-of-way _____ feet from centerline on _____

_____.

[ ] Dedicate [ ] Offer Private and Future [ ] Offer Future

right-of-way _____ feet from centerline on _____

_____.

[ ] Dedicate slope easements _____ feet wide on _____.

[ ] Dedicate slope easements _____ feet wide on _____.

[ ] Dedicate slope easements to the satisfaction of the Superintendent of Streets on _____

_____.

[ ] Dedicate the right to restrict vehicular access on _____.

[ ] Dedicate vehicular access rights on _____, unless the Department of Regional Planning requires the construction of a wall. In such cases, complete access right shall be dedicated.

CITY ENGINEER/SUPERINTENDENT OF STREETS (CE3)
LAND DEVELOPMENT DIVISION - ROAD UNIT- TENTATIVE MAP REVIEW (CONT.)

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

[ ] Construct curb and gutter _____ feet from centerline on _____.

[ ] Construct curb and gutter _____ feet from centerline on _____.

[ ] Construct base and pavement on _____.

[ ] Construct inverted shoulder pavement _____ feet (lane width) and _____ feet (shoulder width) on _____.

[ ] Street light are required on _____ to the satisfaction of the City.

[ ] Plant street trees on _____.

[ ] Construct curb, gutter, base, pavement, sidewalks, and street lights on _____.

[ ] All utility lines shall be underground to the satisfaction of the City.

[ ] Permission granted for street grades up to _____.

[ ] Permission granted to vacate _____. Easements shall be provided for all utility companies that have facilities remaining within the vacated area.

[ ] Comply with any additional requirements, if any, as a means of mitigating any traffic impacts as identified in the traffic study approved by the City.

[ ] Comments/Additional Requirements: _____

Name _____ Phone (818) 458-4910 Date _____

June 29, 1990

TO: Donald L. Wolfe

FROM: Carl L. Blum
Planning Division

Reviewed and Recommended by: Frank Lott, Building and Safety Division (B&S portion of Stage 2A/2B only)
Marie Bloomstone, Business and Finance Division
Tom Hoagland, Land Development Division
Bruce Whitehead, Planning Division

BRIDGE AND MAJOR THOROUGHFARE (B&T) FEE COLLECTION POLICIES AND PROCEDURES

This memo recommends policies and procedures to collect fees from development within the adopted and unadopted B&T Districts. With the passage of laws affecting the fee collections, namely Section 66007 of the California Government Code, policies and procedures need to be adopted which satisfy current laws and are tolerable within this Department.

There are basically three development stages for collection of fees: subdivision recordation, building permit, and occupancy. Although Section 66007 specifies assessment fees will be collected at the occupancy stage, we propose certain policies and procedures which allows us to collect these fees at an earlier stage.

The B&T fees are proposed to be collected or guaranteed at specific stages as follows:

Stage 1A - Subdivision recordation in Adopted Districts
Stage 1B - Subdivision recordation in Unadopted Districts
Stage 2A - Building Permits in Adopted Districts
Stage 2B - Building Permits in Unadopted Districts

Each stage is addressed separately for policies and procedures.

STAGE 1A - SUBDIVISION RECORDATION IN ADOPTED DISTRICTS

POLICY

Subdivisions are conditioned by Land Development Division to pay their B&T fees in cash prior to recordation. If the B&T fees are increased between Tentative Approval and Recordation, the developer is to pay the revised B&T District fee before recordation of the subdivision, even if the developer has already paid prior to the increase. Special cases will be reviewed and addressed on a case by case basis.

PROCEDURES

Land Development Division conditions subdivisions at the Tentative Approval stage (attachment 1) to pay the B&T District fees in cash prior to recordation. When the developer is ready to pay the required B&T fee, Land Development Division fills out Parts A, B, and C of the appropriate B&T District Construction Fee Data Sheet (attachment 2.1,2.2,2.3,2.6) based on the development units proposed by the final approved map. The developer receives a copy of the Data Sheet.

The developer then pays the required fee, in cash, at the Public Works Cashier Office. The Cashier's Office fills out Part D of the Data Sheet. The developer takes this completed Data Sheet to the Public Counter on the 5th Floor where the subdivision is cleared for the B&T fee obligation. Land Development Division sends copies of the completed Data Sheet and receipt to Planning Division. Business and Finance Division receives the original Data Sheet and receipt.

STAGE 1B - SUBDIVISION RECORDATION IN UNADOPTED DISTRICTS

POLICY

Subdivisions are conditioned by Land Development to enter into a written agreement with the County prior to recordation whereby Subdividers agree to participate in the proposed B&T District by paying the appropriate fees upon District formation. The agreement requires the developer to submit a letter of credit to guarantee 100 percent payment of the fee obligation. The letter of credit is drawn down upon adoption of the District. The letter of credit is to contain an automatic renewable clause and must be drawn from a banking institution acceptable to this Department. If the B&T fee is revised between Tentative Approval and Recordation of the subdivision, the developer is to pay the fee in existence at Recordation. For subdivisions that have entered into old agreements where no security was posted, Land Development Division will pursue the collection of fees at the time of District adoption. Special cases will be reviewed and addressed on a case by case basis.

PROCEDURES

Land Development Division conditions subdivisions at the Tentative Approval Stage (attachment 3) to enter into a written agreement (attachment 4.1-4.3) with the County to guarantee the B&T District fees prior to recordation. When the developer is ready to guarantee the required B&T fees, Land Development Division fills out Parts A, B, and C of the appropriate B&T District Construction Fee Data Sheet (attachment 2.4,2.5,2.7) based on the development units proposed by the final approved map. The developer receives a copy of the data sheet.

The developer submits a letter of credit through Land Development Division for Business and Finance Division review. The letter of credit must contain information as set out in attachment 7. Upon acceptance, the Cashier's Office fills out Part D of the Data Sheet. The developer takes this completed Data Sheet and three copies of the properly executed agreement to the Public Counter on the 5th Floor where the subdivision is cleared for the B&T fee obligation. Land Development Division sends copies of the completed Data Sheet and letter of credit to Planning Division. Business and Finance Division receives the original Data Sheet and letter of credit. Land Development will review the agreements where partial or no security was posted to determine the amount of fee the developer owes County. Land Development Division will then request payment of B&T fees, by letter, from the developer.

Planning Division coordinates with Business and Finance Division to drawdown all letters of credit upon adoption of the District.

STAGE 2A - BUILDING PERMIT APPLICATIONS IN ADOPTED DISTRICTS

POLICY

Except as otherwise provided in ~~County Subdivision~~ Zoning Ordinance Code 22.48.280, Building Permit applicants for buildings on lots with R-3 land use zone or greater in allowable density and all non-residential lots are required to pay B&T fees in cash. Special cases will be reviewed and addressed on a case by case basis. All lots from subdivisions that slipped through paying B&T fees at subdivision recordation are required to pay.

~~County Subdivision~~ Zoning Ordinance Code 22.48.280 Exemption - Existing Buildings and Structures, reads as follows:

> *"This Part 4 does not apply to the use, alteration or enlargement of an existing building or structure or the erection of one or more buildings or structures accessory thereto, or both, on the same lot or parcel of land, if the total value of such alteration, enlargement, or construction does not exceed one-half of the current market value of all existing buildings or structures on such lot or parcel of land."*

PROCEDURES

Building and Safety Division reviews the House Numbering Maps to determine the land use zone and whether the lot is in a B&T District. If the lot is in a B&T District and not exempt based on land use or ~~County Subdivision~~ Zoning Ordinance Code 22.48.280, Building and Safety Division fills out the corresponding information on Form 48-0040 DPW (attachment 5). Form 48-0040 DPW is sent to Land Development Division who determines if the B&T fees have been paid. If the fees have not been paid, Land Development Division conditions the applicant for the fees. Conditioning involves calculating the fees and

sending a form letter (attachment 6.1,6.2,6.3,6.6) and a Construction Fee Data Sheet with Parts A, B, and C completed to the applicant notifying him or her of the B&T obligation. The applicant pays the fees in cash at the Cashier's Office who completes Part D of the Data Sheet. The applicant returns the completed Data Sheet to Land Development Division who completes the Form 48-0040 DPW and sends it back to Building and Safety Division. Building and Safety Division will not issue a building permit before obtaining form 48-0040 DPW back from Land Development Division indicating that the B&T fee requirement has been met. Land Development Division will send an updated list of authorized signatures for form 48-0040 DPW to Building and Safety Division. Copies of the Data Sheet and Form 48-0040 DPW are sent to Planning Division by Land Development Division. Business and Finance Division receives the original receipt.

Land Development Division supplies Building and Safety Division an updated list of subdivision lots, regardless of zoning, for subdivisions that did not pay at subdivision recordation and are therefore still required to pay. Building and Safety District offices will review all applicants to see if their lots are on this list. If the applicant's lot is on the list, then Form 48-0040 DPW is sent to Land Development Division. Land Development Division will follow the same procedures for collecting the fees.

Note: Form 48-0040 DPW was formerly RD490.

STAGE 2B - BUILDING PERMIT APPLICANTS IN UNADOPTED DISTRICTS

POLICY

Except as otherwise provided in ~~County Subdivision~~ Zoning Code 22.48.280, Building Permit applicants for buildings on lots with R-3 land use zone or greater in allowable density and all non-residential lots are required to guarantee B&T fees by letter of credit. Special cases will be reviewed and addressed on a case by case basis. All lots from subdivisions that slipped through guaranteeing B&T fees at subdivision recordation are required to guarantee B&T fees.

~~County Subdivision~~ Zoning Code 22.48.280 Exemption - Existing Buildings and Structures, reads as follows:

> *"This Part 4 does not apply to the use, alteration or enlargement of an existing building or structure or the erection of one or more buildings or structures accessory thereto, or both, on the same lot or parcel of land, if the total value of such alteration, enlargement, or construction does not exceed one-half of the current market value of all existing buildings or structures on such lot or parcel of land."*

PROCEDURES

Building and Safety Division reviews the House Numbering Maps to determine the land use zone and whether the lot is in a proposed B&T District. If the lot is in a B&T District and not exempt based on land use or County Zoning Code Section 22.48.280, Building and Safety Division fills out the corresponding information on Form 48-0040 DPW. Form 48-0040 DPW is sent to Land Development Division who determines if the B&T fees have been guaranteed or paid. If the fees have not been guaranteed or paid, Land Development Division conditions the applicant for the fees. Conditioning involves calculating the fees and sending a form letter and a Construction Fee Data Sheet with Part A, B, and C completed to the applicant notifying him or her of the B&T obligation. Letter of Credit guidelines (attachment 7) will also be sent by Land Development Division. The applicant submits a letter of credit through Land Development Division for Business and Finance Division review. Upon acceptance, the Public Works Cashier's office completes Part D of the Data Sheet. The applicant returns the completed Data Sheet to Land Development Division who completes Form 48-0040 DPW and sends it back to Building and Safety Division. Building and Safety Division will not issue a building permit before obtaining form 48-0040 DPW back from Land Development Division indicating that the B&T fee requirement has been met. Land Development Division will send an updated list of authorized signatures for form 48-0040 DPW to Building and Safety Division.

Land Development Division supplies Building and Safety Division an updated list of subdivision lots, regardless of zoning for subdivisions that did not guarantee B&T fees at subdivision recordation and are still required to do so. Building and Safety District Offices will review all applicants to see if their lots are on the list. If the applicant's lot is on the list, Form 48-0040 DPW is sent to Land Development Division. Land Development will follow the same procedures for guaranteeing the fees.

Copies of the Data sheet and Form 48-0040 DPW are sent to Planning Division by Land Development Division. Business and Finance Division receives the original letter of credit.

Planning Division coordinates with Business and Finance Division to drawdown all letters of credit upon adoption of the District.

Note: Form 48-0040 DPW was formerly RD490.

JRS:mv
P-3:1/57-57.1

Attach.

cc: Land Development
Building and Safety
Planning (Whitehead)
County Counsel (Rick Weiss)

List of Attachments

Attachment No.	Description
1	Subdivision condition in adopted Districts
2.1 - 2.8	Construction Fee Data Sheet
3	Subdivision condition in unadopted Districts
4.1 - 4.3	Agreements for unadopted Districts
5	Form 48-0040 DPW (formerly RD 490)
6.1 - 6.8	Form letter for building permits
7	Letter of Credit Guidelines

JRS:mv
P-3: 57.1B

Attach. 7

October 2, 1989

TO: Don L. Wolfe
Land Development Division

FROM: Carl L. Blum
Planning Division

CONDITIONING DEVELOPMENT IN ADOPTED BRIDGE AND THOROUGHFARE (B&T) DISTRICTS

This Division reviewed the new conditioning of tentative parcels and tracts in adopted B&T Districts with County Counsel. After receiving County Counsel's verbal consent, we propose that the B&T District Fee condition should be revised to read as follows:

[ ] Prior to final approval, pay the fees established by the Board of Supervisors for the_____Bridge and Major Thoroughfare Construction Fee District in effect at the time of recordation. The current applicable fee is $_____per_____and is subject to change.

We are currently working on a similar revision of the language in the agreement for development in B&T Districts still in formation stage.

If you have any questions, please contact Mr. John Sheldon at Extension 4361.

JRS:sc/8
P-3

cc: Planning

ATTACHMENT 1

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: BOUQUET CANYON
DISTRICT NO: 1
STATUS: ADOPTED
FUND NO: CN8
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 9461

(1) Name of Depositor_____ PARENT TR. NO:_____
Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

==========

B. DEVELOPMENT UNIT TYPE	NO. OF UNITS OR ACRES	x FACTOR	= FACTORED UNITS
Single Family Residential	_____ UNITS	x 1.0	= _____
Townhome/Condo	_____ UNITS	x 0.8	= _____
Apartment	_____ UNITS	x 0.7	= _____
Neighborhood Commercial	_____ ACRES	x 1.0	= _____
Commercial/Office	_____ ACRES	x 5.0	= _____
Industrial, Manufacturing	_____ ACRES	x 3.0	= _____
	Total Factored Units		= _____

District Fee Schedule

_____ x _____/Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

==========

C. TOTAL CONSTRUCTION FEE OBLIGATION

Total from part B = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

==========

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Deposit$_____(From Part C above)
Department Receipt No._____Date _____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Business and Finance (A/R)
Planning

JRS:mv/20.1
Rev. 01/10/90

ATTACHMENT 2.1

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: ROUTE 126
DISTRICT NO: 2
STATUS: ADOPTED
FUND NO: B10
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 9461

(1) Name of Depositor_____ PARENT TR. NO:_____
Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

==========

B. DEVELOPMENT UNIT TYPE	NO. OF UNITS OR ACRES	x	FACTOR	=	FACTORED UNITS
Single Family Residential	_____ UNITS	x	1.0	=	_____
Townhome/Condo	_____ UNITS	x	0.8	=	_____
Apartment	_____ UNITS	x	0.7	=	_____
Commercial/Office	_____ ACRES	x	5.0	=	_____
Industrial, Manufacturing	_____ ACRES	x	3.0	=	_____
	Total Factored Units			=	_____

District Fee Schedule

_____ x _____/Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

==========

C. TOTAL CONSTRUCTION FEE OBLIGATION

Total from part B = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

==========

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Deposit$_____(From Part C above)
Department Receipt No._____Date _____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Business and Finance (A/R)
Planning

JRS:mv/20.2
Rev. 01/10/90

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: LYONS/MCBEAN PARKWAY
DISTRICT NO: 4
STATUS: ADOPTED
FUND NO: V50
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 9461

(1) Name of Depositor_____ PARENT TR. NO:_____
Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

==========

B. DEVELOPMENT UNIT TYPE	NO. OF UNITS OR ACRES		x FACTOR	=	FACTORED UNITS
Single Family Residential	_____	UNITS	x 1.0	=	_____
Townhome/Condo	_____	UNITS	x 0.8	=	_____
Apartment	_____	UNITS	x 0.7	=	_____
Commercial/Office	_____	ACRES	x 5.0	=	_____
Industrial, Manufacturing	_____	ACRES	x 3.0	=	_____
		Total Factored Units		=	_____

District Fee Schedule

_____ x _____/Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

==========

C. TOTAL CONSTRUCTION FEE OBLIGATION

Total from part B = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

==========

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Deposit$_____(From Part C above)
Department Receipt No._____Date _____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Business and Finance (A/R)
Planning

JRS:sc/20.4
Rev. 01/10/90

ATTACHMENT 2.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: VALENCIA
DISTRICT NO: 5
STATUS: UNADOPTED
FUND NO: TF2
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 7781

(1) Name of Depositor_____ PARENT TR. NO:_____
Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

==========

B. DEVELOPMENT UNIT TYPE	NO. OF UNITS OR ACRES	x	FACTOR	=	FACTORED UNITS
Single Family Residential	_____ UNITS	x	1.0	=	_____
Townhome/Condo	_____ UNITS	x	0.8	=	_____
Apartment	_____ UNITS	x	0.7	=	_____
Commercial/Office	_____ ACRES	x	5.0	=	_____
Industrial, Manufacturing	_____ ACRES	x	3.0	=	_____
	Total Factored Units			=	_____

District Fee Schedule

_____ x _____ /Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

==========

C. TOTAL CONSTRUCTION FEE OBLIGATION

Total from part B = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

==========

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Security $_____ (from Part C above)
Letter of Credit No._____ Date_____
Financial Institution_____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Business and Finance (A/R)
Planning

JRS:mv/20.5

ATTACHMENT 2.4

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: CASTAIC
DISTRICT NO: 6
STATUS: ADOPTED
FUND NO: CP9
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 9461

(1) Name of Depositor_____ PARENT TR. NO:_____
Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

==========

B.

DEVELOPMENT UNIT TYPE	NO. OF UNITS OR ACRES		x FACTOR	= FACTORED UNITS
Single Family Residential	_____	UNITS	x 1.0	= _____
Townhome/Condo	_____	UNITS	x 0.8	= _____
Apartment	_____	UNITS	x 0.7	= _____
Commercial/Office	_____	ACRES	x 5.0	= _____
Industrial, Manufacturing	_____	ACRES	x 3.0	= _____
		Total Factored Units		= _____

District Fee Schedule

_____ x _____/Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

==========

C. TOTAL CONSTRUCTION FEE OBLIGATION

Total from part B = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

==========

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Deposit $_____ (from Part C above)
Department Receipt No._____ Date_____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Fiscal Division (Revenue Management)
Planning Division

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: PARKWAY CALABASAS
DISTRICT NO: 7
STATUS: ADOPTED
FUND NO.: V05
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 9461

Name of Depositor_____ PARENT TR. NO:_____
Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

****

B. DEVELOPMENT UNIT TYPE (RES.)	NO. OF UNITS		FACTOR	=	FACTORED UNITS
Single Family Residential	_____	UNITS	x 1.0	=	_____
Townhome/Condo	_____	UNITS	x 0.8	=	_____
Apartment	_____	UNITS	x 0.7	=	_____
		Total Factored Units		=	_____

Total Fee for Residential

_____ x _____ /Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

DEVELOPMENT UNIT TYPE (NON RES.)	NO. OF S.F.*	FEE RATE	FEE
Commercial/Office	_____ S.F. x	_____ =	_____
Industrial, Manufacturing	_____ S.F. x	_____ =	_____

Total Fee for Non Residential = $_____

*Square feet based on Building Code definition for floor area.

****

C. TOTAL CONSTRUCTION FEE OBLIGATION

Total from Residential and Non Residential = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

****

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Deposit $_____(from Part C above)
Department Receipt No._____ Date _____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Business and Finance (A/R)
Planning

JRS:mv/20.7
Rev. 4/4/90

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: LOST HILLS
DISTRICT NO: 8
STATUS: UNADOPTED
FUND NO.: TF2
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 7781

Name of Depositor_____ PARENT TR. NO:_____
Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

==========

B.

DEVELOPMENT UNIT TYPE (RES.)	NO. OF UNITS		FACTOR	=	FACTORED UNITS
Single Family Residential	_____	UNITS	x 1.0	=	_____
Townhome/Condo	_____	UNITS	x 0.8	=	_____
Apartment	_____	UNITS	x 0.7	=	_____
		Total Factored Units		=	_____

Total Fee for Residential

_____ x _____/Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

DEVELOPMENT UNIT TYPE (NON RES.)	NO. OF S.F.*	FEE RATE	FEE
Commercial/Office	_____ S.F. x	_____ =	_____
Industrial, Manufacturing	_____ S.F. x	_____ =	_____
	Total Fee for Non Residential =		$_____

*Square feet based on Building Code definition for floor area.

==========

C. TOTAL CONSTRUCTION FEE OBLIGATION
Total from Residential and Non Residential = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

==========

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Security $_____(from Part C above)
Letter of Credit No._____Date_____
Financial Institution_____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Business and Finance (A/R)
Planning

JRS:mv/20.8
Rev. 4/4/90

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT
CONSTRUCTION FEE DATA SHEET

A. DISTRICT NAME: MAGIC MOUNTAIN
DISTRICT NO: 9
STATUS: UNADOPTED
FUND NO: TF2
BALANCE SHEET ACCT. NO./REVENUE SOURCE NO: 7781

Name of Depositor_____ PARENT TR. NO:_____
(1) Address of Depositor_____ TR/PM NO:_____
_____Zip_____ CUP NO:_____

==========

B.

DEVELOPMENT UNIT TYPE	NO. OF UNITS OR ACRES		x FACTOR	= FACTORED UNITS
Single Family Residential	_____	UNITS	x 1.0	= _____
Townhome/Condo	_____	UNITS	x 0.8	= _____
Apartment	_____	UNITS	x 0.7	= _____
Commercial/Office	_____	ACRES	x 5.0	= _____
Industrial, Manufacturing	_____	ACRES	x 3.0	= _____
		Total Factored Units		= _____

District Fee Schedule

_____ x _____/Unit = $_____
(Total Factored Units) (Fee Per Factored Unit)

==========

C. TOTAL CONSTRUCTION FEE OBLIGATION

Total from part B = $_____

PLAN CHECKER:_____ REVIEWER:_____
DATE:_____ DATE:_____

==========

D. FOR CASHIER'S USE ONLY
Cashier's Name_____
Amount of Security $_____ (from Part C above)
Department Receipt No._____ Date_____
Letter of Credit No._____ Date_____
Financial Institution_____

cc: Land Development Div. (2) (Road Sect., Develop. Manag. Sect.)
Fiscal Division (Revenue Management)
Planning Division

Attachment 2.8

Conditioning Development in Unadopted Bridge and Major Thoroughfare (B&T) Districts

The B&T District Fee condition should be revised to read as follows:

[ ] Prior to recordation, enter into a written agreement with the County of Los Angeles, whereby the subdivider agrees to issue a letter of credit to fully guarantee the payment of fees for the proposed _____ Bridge & Major Thoroughfare Construction Fee District. The fee is to be based upon the fee rate in effect at the time of recordation. The current fee is $_____ per _____ and is subject to change.

JRS:mv/62
P-3

AND THE COUNTY OF LOS ANGELES REGARDING

PARCEL\TRACT MAP NO. _________

LOCATED IN THE PROPOSED VALENCIA BRIDGE AND MAJOR

THOROUGHFARE CONSTRUCTION FEE DISTRICT

= =

THIS AGREEMENT is between the COUNTY OF LOS ANGELES, hereinafter referred to as "County", and ______________________, hereinafter referred to as "Subdivider".

WITNESSETH:

WHEREAS, County is proposing to establish an area of benefit known as the Valencia Bridge and Major Thoroughfare Construction Fee District, hereinafter referred to as "District", pursuant to the provisions of Government Code Sections 66484 and 66489, in the Santa Clarita Valley for the purpose of financing the construction of highway and bridge improvements to implement the circulation element of the General Plan. The fees to finance the necessary infrastructure are to be proportioned in accordance with the type of development as follows:

Development Unit	Factor
Single Family Residential	1.0
Townhome or Condominium	0.8
Apartment	0.7
Neighborhood Commercial Per Acre	1.0
Industrial Per Acre	3.0
Other Commercial Per Acre	5.0

Said expanded highway and bridge improvements are needed to accommodate future inhabitants of these areas; and

WHEREAS, Subdivider is the owner of land situated in the County of Los Angeles and the land division is described as Parcel/Tract Map No. _____, which lies within the proposed Valencia Bridge and Major Thoroughfare Construction Fee District. Subdivider proposes to create the following development units/acres in said land division:

Development Type	Number	
Single-Family	_____	units
Townhomes or Condominiums (four or more residential units per structure)	_____	units
Apartment	_____	units
Industrial	_____	acres
Commercial	_____	acres; and

WHEREAS, County desires to assure that payment of the required fees (the amount is not yet finalized) is made by Subdivider of each development unit/acre to be created with the proposed District; and

WHEREAS, a final map of said land division prepared in accordance with the provisions of Title 21, Los Angeles County Code (the "Subdivision Ordinance"), has been filed with County by Subdivider and approved by the County.

NOW, THEREFORE, in consideration of the approval by the County of the final map and this Agreement, the parties hereto agree as follows:

1. Upon execution of this Agreement, Subdivider shall furnish a letter of credit acceptable to County equal to the estimated fees per development unit/acre multiplied by the total number of units/acres approved in said land division. The amount demanded shall be uniformly requested from all other subdividers whose land divisions are within District and who have entered into a like Agreement.

2. County shall draw down the letter of credit at the time the District is established by County. The fee paid by Subdivider shall be based upon the fee rate established for the District by County.

3. When the District is established by County and if said land division is within the boundaries of said District and subject to imposition of fees and the established fees are less than the proposed fees per development unit/acre secured by Subdivider under this Agreement, County shall reduce the security amount to equal the established fees and release the remaining amount. If the established fees are greater than the amount guaranteed by the letter of credit, Subdivider is to pay the difference in cash when the District is established by County.

4. It is understood and agreed by the parties that said sums shall be payable whether or not the aforementioned District is ultimately established and that the establishment of the District is not a condition precedent to payment of said sums.

5. It is understood and agreed upon by the parties that if the District is not established by County, County will draw down the letter of credit, based upon the aforementioned fees, when determined by County that the District is no longer feasible.

6. It is understood and agreed upon by the parties that any sum or sums paid under this Agreement shall be used solely to implement the circulation element of the General Plan in the proposed area of the District.

7. Subdivider further agrees that it will support actions by County to establish the District, including said land division within the District.

8. Subdivider may construct proposed District improvements subject to the approval of the Director of Public Works and receive credit toward those fees otherwise payable hereunder established for the District.

9. County agrees to diligently pursue a course of action to establish the District. County further agrees to initiate the necessary action to construct the proposed District improvements while establishing the District.

10. It is understood and agreed by Subdivider that the covenants and agreements herein contained shall run with the land and shall be binding upon Subdivider, its successors or assigns, and any future owners, purchasers, encumbrances, and their successors, heirs, executors, administrators, or assigns.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers, duly authorized by Subdivider, on_____ 199___, and by County on_____, 199___.

SUBDIVIDER

By_____

COUNTY OF LOS ANGELES

By_____

Chairman, Board of Supervisors

ATTEST:

LARRY J. MONTEILH, Executive Officer
Clerk of the Board of Supervisors

By_____

APPROVED AS TO FORM:

County Counsel

By_____

Principal Deputy

AGREEMENT BETWEEN ______________
AND THE COUNTY OF LOS ANGELES REGARDING
PARCEL\TRACT MAP NO. ________
LOCATED IN THE PROPOSED MAGIC MOUNTAIN BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT

= =

THIS AGREEMENT is between the COUNTY OF LOS ANGELES, hereinafter referred to as "County", and ____________________, hereinafter referred to as "Subdivider".

WITNESSETH:

WHEREAS, County is proposing to establish an area of benefit known as the Magic Mountain Bridge and Major Thoroughfare Construction Fee District, hereinafter referred to as "District", pursuant to the provisions of Government Code Sections 66484 and 66489, in the Santa Clarita Valley for the purpose of financing the construction of highway and bridge improvements to implement the circulation element of the General Plan. The fees to finance the necessary infrastructure are to be proportioned in accordance with the type of development as follows:

Development Unit	Factor
Single Family Residential	1.0
Townhome or Condominium	0.8
Apartment	0.7
Neighborhood Commercial Per Acre	1.0
Industrial Per Acre	3.0
Other Commercial Per Acre	5.0

Said expanded highway and bridge improvements are needed to accommodate future inhabitants of these areas; and

WHEREAS, Subdivider is the owner of land situated in the County of Los Angeles and the land division is described as Parcel/Tract Map No. _____, which lies within the proposed Magic Mountain Bridge and Major Thoroughfare Construction Fee District. Subdivider proposes to create the following development units/acres in said land division:

Development Type	Number	
Single-Family	_____	units
Townhomes or Condominiums (four or more residential units per structure	_____	units
Apartment	_____	units
Industrial	_____	acres
Commercial	_____	acres; and

WHEREAS, County desires to assure that payment of the required fees (the amount is not yet finalized) is made by Subdivider of each development unit/acre to be created with the proposed District; and

WHEREAS, a final map of said land division prepared in accordance with the provisions of Title 21, Los Angeles County Code (the "Subdivision Ordinance"), has been filed with County by Subdivider and approved by the County.

NOW, THEREFORE, in consideration of the approval by the County of the final map and this Agreement, the parties hereto agree as follows:

1. Upon execution of this Agreement, Subdivider shall furnish a letter of credit acceptable to County equal to the estimated fees per development unit/acre multiplied by the total number of units/acres approved in said land division. The amount demanded shall be uniformly requested from all other subdividers whose land divisions are within District and who have entered into a like Agreement.

2. County shall draw down the letter of credit at the time the District is established by County. The fee paid by Subdivider shall be based upon the fee rate established for the District by County.

3. When the District is established by County and if said land division is within the boundaries of said District and subject to imposition of fees and the established fees are less than the proposed fees per development unit/acre secured by Subdivider under this Agreement, County shall reduce the security amount to equal the established fees and release the remaining amount. If the established fees are greater than the amount guaranteed by the letter of credit, Subdivider is to pay the difference in cash when the District is established by County.

4. It is understood and agreed by the parties that said sums shall be payable whether or not the aforementioned District is ultimately established and that the establishment of a District is not a condition precedent to payment of said sums.

5. It is understood and agreed upon by the parties that if the District is not established by County, County will draw down the letter of credit, based upon aforementioned fees, when determined by County that the District is no longer feasible.

6. It is understood and agreed upon by the parties that any sum or sums paid under this Agreement shall be used solely to implement the circulation element of the General Plan in the proposed area of the District.

7. Subdivider further agrees that it will support actions by County to establish the District, including said land division within the District.

8. Subdivider may construct proposed District improvements subject to the approval of the Director of Public Works and receive credit toward those fees otherwise payable hereunder established for the District.

9. County agrees to diligently pursue a course of action to establish the District. County further agrees to initiate the necessary action to construct the proposed District improvements while establishing the District.

10. It is understood and agreed by Subdivider that the covenants and agreements herein contained shall run with the land and shall be binding upon Subdivider, its successors or assigns, and any future owners, purchasers, encumbrances, and their successors, heirs, executors, administrators, or assigns.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers, duly authorized by Subdivider, on_____ 199___, and by County on_____, 199___.

SUBDIVIDER

By_____

COUNTY OF LOS ANGELES

By_____

Chairman, Board of Supervisors

ATTEST:

LARRY J. MONTEILH, Executive Officer
Clerk of the Board of Supervisors

By_____

APPROVED AS TO FORM:

County Counsel

By_____

Principal Deputy

AGREEMENT BETWEEN ______________

AND THE COUNTY OF LOS ANGELES REGARDING

PARCEL\TRACT MAP NO. ________

LOCATED IN THE PROPOSED LOST HILLS BRIDGE AND

MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT

= =

THIS AGREEMENT is between the COUNTY OF LOS ANGELES, hereinafter referred to as "County", and ______________________, hereinafter referred to as "Subdivider".

WITNESSETH:

WHEREAS, County is proposing to establish an area of benefit known as the Lost Hills Bridge and Major Thoroughfare Construction Fee District, hereinafter referred to as "District", pursuant to the provisions of Government Code Sections 66484 and 66489, along the Ventura Freeway Corridor for the purpose of financing the construction of highway and bridge improvements to implement the circulation element of the General Plan. The fees to finance the necessary infrastructure are to be proportioned in accordance with the type of development as follows:

Development Unit	Factor
Single Family Residential	1.0
Townhome or Condominium	0.8
Apartment	0.7
Neighborhood Commercial Per Acre	1.0
Industrial Per Acre	3.0
Other Commercial Per Acre	5.0

Said expanded highway and bridge improvements are needed to accommodate future inhabitants of these areas; and

WHEREAS, Subdivider is the owner of land situated in the County of Los Angeles and the land division is described as Parcel/Tract Map No. _____, which lies within the proposed Lost Hills Bridge and Major Thoroughfare Construction Fee District. Subdivider proposes to create the following development units/acres in said land division:

Development Type	Number	
Single-Family	_____	units
Townhomes or Condominiums (four or more residential units per structure	_____	units
Apartment	_____	units
Industrial	_____	acres
Commercial	_____	acres; and

WHEREAS, County desires to assure that payment of the required fees (the amount is not yet finalized) is made by Subdivider of each development unit/acre to be created with the proposed District; and

WHEREAS, a final map of said land division prepared in accordance with the provisions of Title 21, Los Angeles County Code (the "Subdivision Ordinance"), has been filed with County by Subdivider and approved by the County.

NOW, THEREFORE, in consideration of the approval by the County of the final map and this Agreement, the parties hereto agree as follows:

1. Upon execution of this Agreement, Subdivider shall furnish a letter of credit acceptable to County equal to the estimated fees per development unit/acre multiplied by the total number of units/acres approved in said land division. The amount demanded shall be uniformly requested from all other subdividers whose land divisions are within District and who have entered into a like Agreement.

2. County shall draw down the letter of credit at the time the District is established by County. The fee paid by Subdivider shall be based upon the fee rate established for the District by County.

3. When the District is established by County and if said land division is within the boundaries of said District and subject to imposition of fees and the established fees are less than the proposed fees per development unit/square foot secured by Subdivider under this Agreement, County shall reduce the security amount to equal the established fees and release the remaining amount. If the established fees are greater than the amount guaranteed by the letter of credit, Subdivider is to pay the difference in cash when the District is established by County.

4. It is understood and agreed by the parties that said sums shall be payable whether or not the aforementioned District is ultimately established and that the establishment of the District is not a condition precedent to payment of said sums.

5. It is understood and agreed upon by the parties that if the District is not established by County, County will draw down the letter of credit, based upon the aforementioned fees, when determined by County that the District is no longer feasible.

6. It is understood and agreed upon by the parties that any sum or sums paid under this Agreement shall be used solely to implement the circulation element of the General Plan in the proposed area of the District.

7. Subdivider further agrees that it will support actions by County to establish the District, including said land division within the District.

8. Subdivider may construct proposed District improvements subject to the approval of the Director of Public Works and receive credit toward those fees otherwise payable hereunder established for the District.

9. County agrees to diligently pursue a course of action to establish the District. County further agrees to initiate the necessary action to construct the proposed District improvements while establishing the District.

10. It is understood and agreed by Subdivider that the covenants and agreements herein contained shall run with the land and shall be binding upon Subdivider, its successors or assigns, and any future owners, purchasers, encumbrances, and their successors, heirs, executors, administrators, or assigns.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers, duly authorized by Subdivider, on_____ 199___, and by County on_____, 199___.

SUBDIVIDER

By_____

COUNTY OF LOS ANGELES

By_____

Chairman, Board of Supervisors

ATTEST:

LARRY J. MONTEILH, Executive Officer
Clerk of the Board of Supervisors

By_____

APPROVED AS TO FORM:

County Counsel

By_____

Principal Deputy

48-0040 DPW 10-87

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331

Plan Check No. _____

Date Filed _____

NOTICE OF IMPROVEMENT

TO BE FILLED IN COMPLETELY

Applicant _____ (PRINT) Telephone No. _____

Address _____ (NO. STREET CITY ZONE)

Owner _____ (PRINT) Telephone No. _____

Address _____ (NO STREET CITY ZONE)

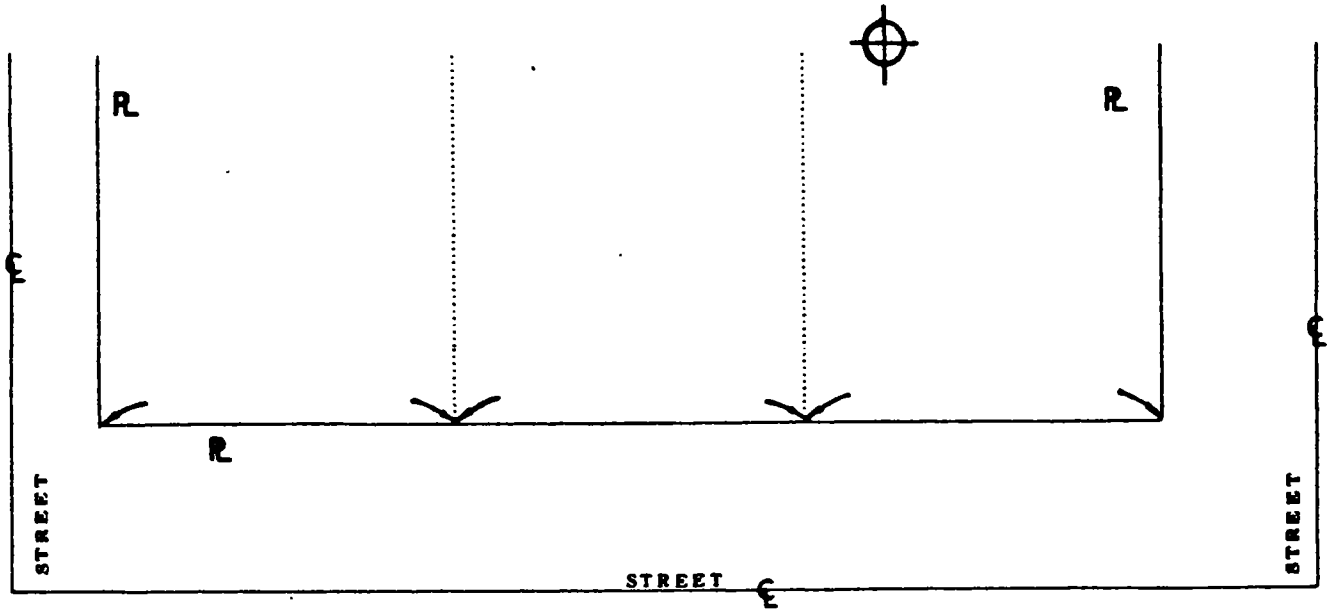
Use of Building _____ No. of Stories _____

Legal Description of Property:

Lot(s) _____ Block _____ Tract _____

Job Location _____ (NO STREET FRONTAGE FT) No. Driveways ( )

BUILDING & SAFETY OFFICE
BY



(TO BE FILLED BY DEPARTMENT OF PUBLIC WORKS)

IMPROVEMENTS

Name of Bridge and Major Thoroughfare District _____ Fee Met _____ Date Initial

	EXISTING CONDITION	REQUIREMENTS	R W MET DATE INITIAL
Right of Way			
Curb & Gutter			
Sidewalk			R.D.
Driveways			Tho.
Drainage			

REMARKS: _____

Department of Public Works Requirements Met. _____ Date _____

ATTACHMENT 5

BUILDING PERMITS IN THE ADOPTED BOUQUET CANYON BRIDGE AND MAJOR THOROUGHFARE DISTRICT

The Board of Supervisors adopted a resolution setting boundaries and establishing fees for the Bouquet Canyon Bridge and Major Thoroughfare Construction Fee District on October 1, 1985. The following is the current fee schedule and is subject to change:

Single Family	$ 4,000	per unit
Townhouses/Condo*	$ 3,200	per unit
Apartment	$ 2,800	per unit
Neighborhood Commercial	$ 4,000	per acre
Regional Commercial**	$ 20,000	per acre
Commercial	$ 20,000	per acre
Industrial	$ 12,000	per acre

* 4 or more residential units per structure.
** 2 or more stores and/or offices.

The Director of Public Works may require the developer to submit a traffic report periodically that addresses traffic congestion and the need to mitigate the problems prior to issuing building permits.

The applicant shall pay these fees in cash to the Los Angeles County Department of Public Works prior to the issuance of a building permit.

BUILDING PERMITS IN THE ADOPTED ROUTE 126 BRIDGE AND MAJOR THOROUGHFARE DISTRICT

The Board of Supervisors adopted a resolution setting boundaries and establishing fees for the Route 126 Bridge and Major Thoroughfare Construction Fee District on July 21, 1987. The following is the current fee schedule and is subject to change:

Single Family	$ 4,800	per unit
Townhouses/Condo*	$ 3,840	per unit
Apartment	$ 3,360	per unit
Commercial	$ 24,000	per acre
Industrial	$ 14,400	per acre

* 4 or more residential units per structure

The Director of Public Works may require the developer to submit a traffic report periodically that addresses traffic congestion and the need to mitigate the problems prior to issuing building permits.

The applicant shall pay these fees in cash to the Los Angeles County Department of Public Works prior to the issuance of a building permit.

BUILDING PERMITS IN THE ADOPTED LYONS/MCBEAN BRIDGE AND MAJOR THOROUGHFARE DISTRICT

The Board of Supervisors adopted a resolution setting boundaries and establishing fees for the Lyons/McBean Bridge and Major Thoroughfare Construction Fee District on December 29, 1987. The following is the current fee schedule and is subject to change:

Single Family	$ 2,000	per unit
Townhouse/Condo*	$ 1,600	per unit
Apartment	$ 1,400	per unit
Commercial	$ 10,000	per acre
Industrial	$ 6,000	per acre

* 4 or more residential units per structure.

The Director of Public Works may require the developer to submit a traffic report periodically that addresses traffic congestion and the need to mitigate the problems prior to issuing building permits.

The applicant shall pay these fees in cash to the Los Angeles County Department of Public Works prior to the issuance of a building permit.

JRS:mv/55.4
P-3

BUILDING PERMITS IN THE UNADOPTED VALENCIA BRIDGE AND MAJOR THOROUGHFARE DISTRICT

Prior to issuance of a Building Permit, the applicant shall guarantee by letter of credit to pay to the County of Los Angeles for the purpose of contributing to the proposed Valencia Bridge and Thoroughfare Benefit District to implement the highway elements of the General Plan as a means of mitigating the traffic impacts of this and other projects in the area. The letter of credit must have an automatic renewal clause and be acceptable to the Department of Public Works.

The following is the current fee schedule and is subject to change:

	Development Unit	Fee
a.	Single family per unit	$ 3,000
b.	Townhouses or Condo per unit (4 or more residential units per structure)	$ 2,400
c.	Apartments per unit	$ 2,100
d.	Industrial per acre	$ 9,000
e.	Commercial per acre	$15,000

JRS:mv/54.5
P-3

BUILDING PERMITS IN THE ADOPTED CASTAIC BRIDGE AND MAJOR THOROUGHFARE DISTRICT

The Board of Supervisors adopted a resolution setting boundaries and establishing fees for the Castaic Bridge and Major Thoroughfare Construction Fee District on March 26, 1992. The following is the current fee schedule and is subject to change:

Single Family	$ 3,400	per unit
Townhouses/Condo*	$ 2,720	per unit
Apartment	$ 2,380	per unit
Commercial	$ 17,000	per acre
Industrial	$ 10,200	per acre

* 4 or more residential units per structure.

The Director of Public Works may require the developer to submit a traffic report periodically that addresses traffic congestion and the need to mitigate the problems prior to issuing building permits.

The applicant shall pay these fees in cash to the Los Angeles County Department of Public Works prior to the issuance of a building permit.

BUILDING PERMITS IN THE ADOPTED PARKWAY CALABASAS BRIDGE AND MAJOR THOROUGHFARE DISTRICT

The Board of Supervisors adopted a resolution setting boundaries and establishing fees for the Parkway Calabasas Bridge and Major Thoroughfare Construction Fee District on January 22, 1987. The following is the current fee schedule and is subject to change:

Single Family	$ 4,920	per unit
Townhouses/Condo*	$ 3,936	per unit
Apartment	$ 3,444	per unit
Commercial	$ 5.10	per square foot
Industrial	$ 5.10	per square foot

* 4 or more residential units per structure.

The Director of Public Works may require the developer to submit a traffic report periodically that addresses traffic congestion and the need to mitigate the problems prior to issuing building permits.

The applicant shall pay these fees in cash to the Los Angeles County Department of Public Works prior to the issuance of a building permit.

BUILDING PERMITS IN THE UNADOPTED LOST HILLS BRIDGE AND MAJOR THOROUGHFARE DISTRICT

Prior to issuance of a Building Permit, the applicant shall guarantee by letter of credit to pay to the County of Los Angeles for the purpose of contributing to the proposed Lost Hills Bridge and Thoroughfare Benefit District to implement the highway elements of the General Plan as a means of mitigating the traffic impacts of this and other projects in the area. The letter of credit must have an automatic renewal clause and be acceptable to the Department of Public Works.

The following is the current fee schedule and is subject to change:

	Development Unit	Fee
a.	Single family per unit	$ 4,750
b.	Townhouses or Condo per unit (4 or more residential units per structure)	$ 3,800
c.	Apartments per unit	$ 3,325
d.	Industrial per square foot	$ 4.85
e.	Commercial per square foot	$ 4.85

BUILDING PERMITS IN THE UNADOPTED MAGIC MUNTAIN BRIDGE AND MAJOR THOROUGHFARE CONSTRUCTION FEE DISTRICT

Prior to issuance of a Building Permit, the applicant shall guarantee by Letter of Credit to pay to the County of Los Angeles for the purpose of contributing to the proposed Magic Mounain Bridge and Thoroughfare Construction Fee Distict to implement the highway elements of thne Generalk Plan as a means of mitigating the traffic impacts of this and other projects in the area. The Letter of Credit must have an automatic renewal clause and be acceptable to the Department of Public Works.

The following is the current feeschedule and is subject to change.

Development Unit	Fee
Single Family Residential Per Unit	$ 5,200
Townhomes or Condominiums Per Unit (four or more residential units per structure)	$ 4,160
Apartment Per Unit	3,640
Commercial Per Acre	$26,000
Industrial Per Acre	$15,600

Attachment 6.8

Guidelines for Letters of Credit for B&T District Fees

A letter of Credit will be issued by a financial institution acceptable to the Department of Public Works. The following information will appear on the Letter of Credit:

1. The Director of the Los Angeles County Department of Public Works is to be the beneficiary.

2. State the purpose of the Letter of Credit. Example: Bouquet Canyon Bridge and Major Thoroughfare District fees for TR 22222.

3. The Letter of Credit is to contain an automatic renewal clause as follows:

   It is a condition of this Letter of Credit that it shall be deemed automatically extended without amendment for one (1) year from the present or any future expiration date hereof, unless at least sixty (60) days prior to any such expiration date, we shall notify the Fiscal Division Chief of the Los Angeles County Department of Public Works by registered letter that we elect not to consider this Letter of Credit renewed for such additional ear period. Notification period will begin on the date of the Letter from Fiscal Division Chief acknowledging the receipt of notification of expiration of the Letter of Credit.

The Letter of Credit must have prior approval from the Fiscal Division Chief of the Department of Public Works. A copy of the Letter of Credit request for approval is shown on Page 96 and 97.

Attachment 7

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - SANITARY SEWER UNIT

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

[] The distances from all sewage disposal components to the proposed lot/parcel lines must be shown. If any such sewage disposal component is not on the same lot/parcel as the building it serves, or if it does not meet the horizontal clearance requirement of the Plumbing Code (Table 11-1), the proposed lot/parcel line shall be relocated to so provide, or a replacement sewage disposal system complying with Plumbing Code requirements shall be provided prior to division of land.

[] The subdivider shall install and dedicate main line sewers and serve each lot/parcel with a separate house lateral or have approved and bonded sewer plans on file with the Department of Public Works.

[] The subdivider shall install separate house laterals to serve each building/lot/parcel in the land division. Installation and dedication of main line sewers may be necessary to meet this requirement.

[] The subdivider shall submit an area study to the Director of Public Works to determine whether capacity is available in the sewerage system to be used as the outlet for the sewers in this land division. If the system is found to have insufficient capacity, the problem must be resolved to the satisfaction of the Director of Public Works.

[] The subdivider shall send a print of the land division map to the County Sanitation District, with a request for annexation. Such annexation must be assured in writing.

[] Sewer reimbursement charges as determined by the Director of Public Works shall be paid to the County of Los Angeles before the filing of this land division map.

[] The subdivider shall determine from the Las Virgenes Municipal Water District where the connection to the trunk sewer system and disposal facilities of the District shall be made, and shall meet the requirements of the Water District for the use of the sewerage facilities. Acceptance by the District must be assured in writing.

[] Off-site improvements are tentatively required.

[] Easements are tentatively required, subject to review by the Director of Public Works to determine the final locations and requirements.

[] A deposit is required to review documents and plans for final map clearance in accordance with Section 21.36.010(c) of the Subdivision Ordinance.

[] The discharge of sewage from this land division into the public sewer system will not violate the requirements of the California Regional Water Quality Control Board pursuant to Division 7 (commencing with Section 13000) of the Water Code.

[] Approved without conditions.

[] Comments/Additional Requirements: _____

_____

_____

Name _____ Phone No. (818) 458-4909 Date: _____

CITY ENGINEER/SUPERINTENDENT OF STRRETS
LAND DEVELOPMENT DIVISION - SANITARY SEWER UNIT CITY OF _____

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

[] The distances from all sewage disposal components to the proposed lot/parcel lines must be shown. If any such sewage disposal component is not on the same lot/parcel as the building it serves, or if it does not meet the horizontal clearance requirement of the Plumbing Code (Table 11-1), the proposed lot/parcel line shall be relocated to so provide, or a replacement sewage disposal system complying with Plumbing Code requirements shall be provided prior to division of land.

[] The subdivider shall install and dedicate main line sewers and serve each lot/parcel with a separate house lateral or have approved and bonded sewer plans on file with the Department of Public Works.

[] The subdivider shall install separate house laterals to serve each building/lot/parcel in the land division. Installation and dedication of main line sewers may be necessary to meet this requirement.

[] The subdivider shall submit an area study to the Director of Public Works to determine whether capacity is available in the sewerage system to be used as the outlet for the sewers in this land division. If the system is found to have insufficient capacity, the problem must be resolved to the satisfaction of the Director of Public Works.

[] The subdivider shall send a print of the land division map to the County Sanitation District, with a request for annexation. Such annexation must be assured in writing.

[] Sewer reimbursement charges as determined by the Director of Public Works shall be paid to the County of Los Angeles before the filing of this land division map.

[] The subdivider shall determine from the Las Virgenes Municipal Water District where the connection to the trunk sewer system and disposal facilities of the District shall be made, and shall meet the requirements of the Water District for the use of the sewerage facilities. Acceptance by the District must be assured in writing.

[] Off-site improvements are tentatively required.

[] Easements are tentatively required, subject to review by the Director of Public Works to determine the final locations and requirements.

[] A deposit is required to review documents and plans for final map clearance in accordance with Section 21.36.010(c) of the Subdivision Ordinance.

[] The discharge of sewage from this land division into the public sewer system will not violate the requirements of the California Regional Water Quality Control Board pursuant to Division 7 (commencing with Section 13000) of the Water Code.

[] Approved without conditions.

[] Comments/Additional Requirements: _____

_____

_____

Name _____ Phone No. (818) 458-4909 Date: _____

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION - WATER CODE ENFORCEMENT SUBUNIT - TENTATIVE MAP REVIEW

TRACT/PARCEL MAP NO._____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

[ ] Provide all materials necessary to substantiate that there is an adequate water supply and a firm commitment from a registered water purveyor with the County of Los Angeles that the necessary quantities of water is still in storage and will be available for domestic and fire demand to the entire water system including the proposed development. From the information available to this office, only limited water supplies are available to the area.

[ ] This proposed land division is in the area where groundwater is limited and/or declining. A geohydrologic report is required to substantiate that there is a dependable source of water capable to accommodate domestic and fire demands. (See Chapter 25 for approval procedures.)

[ ] A water system with appurtenant facilities to serve all lots/parcels in the land division must be provided. The system shall include fire hydrants of the type and location as determined by the Forester and Fire Warden. The water system shall be sized to accommodate the domestic and fire flow demands. (See Chapter 48 of this Manual for design criteria.)

[ ] Construct the necessary improvements to the existing water system to accommodate the total domestic and fire demands. According to our records, the water mains serving this proposed land division do not have adequate capacity. (See Chapter 48 of this Manual for design criteria.)

[ ] There shall be filed with the Department a statement from a registered water purveyor with the County of Los Angeles indicating that the water system will be operated by that purveyor and that the system will meet the requirements for the land division, and that water service will be provided to each lot/parcel with a minimum water pressure of 35 psig for domestic use. Only unconditional statement of water service (Will Serve) letter from the water purveyor will be accepted. (See Chapter 25 of this Manual.)

[ ] This proposed land division is not within an existing service area of a registered water utility. Either this subdivision must be annexed to a Water Utility Service Area or a water utility must be formed and registered with the County of Los Angeles to provide adequate service in accordance with Section 20.08.010 of the County Code to all lots/parcels within the land division. (See Chapters 25 and 60 of this Manual.)

[ ] The Water Purveyor must obtain a valid Certificate of Registration from the Department of Public Works.

[ ] A warning note shall be placed on the final map and/or in the CC & R's indicating that the area has a limited ground water supply and water may not be available during periods of severe drought. (Applicable only where the lot size is 5 acres or greater.)

[ ] Off-site improvements may be required to provide a feasible water distribution system.

[ ] Easements shall be granted to the County, appropriate agency or entity for the purpose of ingress, egress, construction and maintenance of all infrastructure constructed on private property for this land division to the satisfaction of the Department.

[ ] An initial deposit may be required based on currently known conditions to review documents and plans for final map clearance in accordance with Section 20.08.060 of the Utilities Code. (See Chapters 25 and 60 of this Manual.)

LAND DEVELOPMENT DIVISION - WATER CODE ENFORCEMENT SUBUNIT - TENTATIVE MAP REVIEW (cont.)

TRACT/PARCEL MAP NO._____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

( ) Water service to existing building must be within the same lot as the building it serves, otherwise, it shall be relocated to the same.

[ ] Approved without conditions and existing water service is adequate or the size of lots are 5 acres or more.

( ) Comments/Additional Requirements: _____

_____

_____

_____

Name _____ Phone (818) 458-4910 Date_____

DEPARTMENT OF PUBLIC WORKS
MATERIALS ENGINEERING DIVISION - GEOLOGY & SOILS SECTION - TENTATIVE MAP REVIEW - GEOLOGY REVIEW

TRACT/PARCEL MAP NO. _____ TENTATIVE MAP DATED _____

REVISED TENTATIVE MAP DATED _____

SUBDIVIDER:_____

ENGINEER:_____ LOCATION _____

CONSULTANT(S)_____ REPORT(S) DATED: _____

The regional Planning Commission, developer and engineer are advised that:

PRIOR TO APPROVAL OF TENTATIVE TRACT OR PARCEL MAP:

[ ] An engineering geologic report will be required to evaluate the feasibility of the proposed subdivision.

_____
_____
_____
_____

[ ] A soils report will be required _____
_____
_____
_____
_____

[ ] Sufficient evidence must be submitted to show that the sustained use of private sewage disposal system is possible without inducing a geologic hazard. The Health Department and developer are advised that geologic conditions within this tract may severely limit or prohibit the use of private sewage disposal system that will introduce water into the subsurface.

_____
_____
_____
_____

NOTES: 1. Provide a copy of this review to your geologist and geotechnical engineer.
2. Provide a copy of this review with your resubmittal.

Reviewer: _____ Date: _____

DEPARTMENT OF PUBLIC WORKS
MATERIALS ENGINEERING DIVISION

GEOLOGIC REVIEW

TENTATIVE TRACT/PARCEL MAP NO. _____ TRACT/PARCEL MAP DATED: _____

LOCATION _____

SUBDIVIDER: _____ ENGINEER: _____

CONSULTANT(s): _____ REPORT(s): _____

☐ TENTATIVE MAP IS APPROVED FOR FEASIBILITY. PRIOR TO FILING THE FINAL LAND DIVISION MAP, THE FOLLOWING CONDITIONS MUST BE FULFILLED:

- ☐ The final map must be approved by the Geology and Soils Section to assure that all geologic factors have been properly evaluated.
- ☐ A grading plan must be approved by the Geology and Soils Section. This grading plan must be based on a detailed engineering geology report and/or soils engineering report and must be specifically approved by the geologist and/or geotechnical engineer and show all recommendations submitted by them. It must also agree with the tentative map and conditions as approved by the Planning Commission.
- ☐ A detailed engineering geologic report and soils engineering report must be approved.
- ☐ All geologic hazards associated with this proposed development must be eliminated,

  or

  delineate restricted use areas, approved by the consultant geologist, to the satisfaction of the Geology and Soils Section, and dedicate to the County the right to prohibit the erection of buildings or other structures within the restricted use areas.
- ☐ Specific recommendations will be required from the consultant(s) regarding the suitability for developmer of all lots designed essentially as ungraded site lots.
- ☐ _____

  _____

  _____

☐ TENTATIVE MAP IS APPROVED FOR FEASIBILITY. THE FOLLOWING INFORMATION IS APPLICABLE TO THIS DIVISION OF LAND:

- ☐ The subdivider is advised that approval of this division of land is contingent upon the installation and use of a sewer system.
- ☐ A geology and/or soil engineering report may be required prior to approval of building or grading plans.
- ☐ Approved without conditions.
- ☐ _____

  _____

Reviewer: _____ Date: _____

G2:TM2
48-0038
9/17/91

CONTRACT CITY
GEOLOGY REVIEW

CITY OF: _____

TENTATIVE TRACT/PARCEL MAP NO. _____ TRACT/PARCEL MAP DATED: _____

SUBDIVIDER: _____ ENGINEER: _____

CONSULTANT(S): _____ REPORT(S): _____

☐ TENTATIVE MAP IS APPROVED FOR FEASIBILITY. PRIOR TO FILING THE FINAL LAND DIVISION MAP, THE FOLLOWING CONDITIONS MUST BE FULFILLED:

- ☐ The final map must be approved by the Geology and Soils Section to assure that all geologic factors have been properly evaluated.
- ☐ A grading plan must be approved by the Geology and Soils Section. This grading plan must be based on a detailed engineering geology report and/or soils engineering report and must be specifically approved by the geologist and/or geotechnical engineer and show all recommendations submitted by them. It must also agree with the tentative map and conditions as approved by the Planning Commission.
- ☐ A detailed engineering geologic report and soils engineering report must be approved.
- ☐ All geologic hazards associated with this proposed development must be eliminated,
  -OR-
  be delineated as restricted use areas, approved by the consultant geologist, to the satisfaction of the Geology and Soils Section, and dedicate to the City the right to prohibit the erection of buildings or other structures within the restricted use areas.
- ☐ Specific recommendations will be required from the consultant(s) regarding the suitability for development of all lots designed essentially as ungraded site lots.
- ☐ _____

  _____

☐ TENTATIVE MAP IS APPROVED FOR FEASIBILITY. THE FOLLOWING INFORMATION IS APPLICABLE TO THIS DIVISION OF LAND:

- ☐ The subdivider is advised that approval of this division of land is contingent upon the installation and use of a sewer system.
- ☐ A geology and/or soil engineering report may be required prior to approval of building or grading plans.
- ☐ Approved without conditions.
- ☐ _____

  _____

Reviewer: _____ Date: _____

G2:TM1
4/17/91
48-0060

GEOTECHNICAL ENGINEERING REVIEW SHEET

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Address: 900 So. Fremont Ave.
Alhambra, CA 91803
Telephone: (818) 458-4925
Materials Engineering Division

District Office _____
Job No. _____
Sheet 1 of 1

DISTRIBUTION:

__ Drainage and Grading Sect.
__ Geo/Soils Central File
__ District Engineer
__ Geologist
__ Geotechnical Engineer
__ Engineer

Tentative Tract _____ Parent _____
Location _____
Developer/Owner _____
Engineer _____
Geotechnical Engineer _____
Geologist _____

Grading Plan Check No. _____
Building Plan Check No. _____

Review of:

Grading Plan dated by Processing Center _____
Building Plan dated by Processing Center _____
Geotechnical Report dated _____ Geologic Report dated _____
Other _____

Refer to references in review dated _____

Action:

__Plans and Reports are approved (for feasibility) from a Geotechnical Engineering Standpoint.
__From a Geotechnical Engineering Standpoint, Plans and Reports are approved (for feasibility) subject to conditions below:
__Before approval for feasibility the following information is required to assess the development as shown on the tentative map:
__Before approval the following information is required:

Remarks:

_____

_____

_____

_____

_____

_____

_____

Prepared by _____ Reviewed by _____ Date _____

GEOTECHNICAL ENGINEERING REVIEW SHEET STANDARD REMARKS

Remarks:

1. The Geotechnical Engineer must sign, stamp and indicate the date of registration expiration on the soils report.

2. Provide data on the possible adverse impact of the private sewage disposal system relative to site stability and adjacent properties.

3. A statement is required by the geotechnical consultant making a finding in accordance with Section 309 [324] of the County [City] Building Code.

4. Requirements of the Geology Unit must be complied with prior to Geotechnical Engineering approval.

5. The Geotechnical Engineer must review the grading/building plans and sign and stamp the plans in verification of his recommendations and the recommendations of the approved geotechnical report.

6. Pool must be designed as a floating pool to withstand differential settlement and behave as a single unit.

7. Add the following notes on the grading/building plans:

   a. The Geotechnical Engineer shall inspect and approve the foundation excavations before steel or concrete is placed.

   b. Building pads located in cut/fill transition areas shall be overexcavated a minimum of 3 feet below the proposed bottom of footings.

   c.

8. Show the following on the grading/building plans:

   a. The area and overexcavation depth required for soils subject to hydroconsolidation.

   b. Location of private sewage disposal system.

   c.

9. An addendum geology report is required. Please submit (2) sets of geology and soils reports for review by the Geology and Geotechnical Units.

10. Please include a copy of this review sheet with your response.

11. The Geotechnical Engineer must acknowledge all pertinent previous soil reports and make a statement that he agrees with their findings, conclusions and recommendations or provide appropriate modifications.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE:

TO: ALL CONCERNED PRIVATE ENGINEERS AND LAND DEVELOPERS

COORDINATED SUBDIVISION PROCESSING PROGRAM

In an effort to shorten processing time for plan checking, the Department of Public Works has initiated the Coordinated Subdivision Processing (CSP) Program.

Under this program, a developer submits a complete package of all necessary plans and maps. The Department will make a coordinated review of all plans and meet the developer and engineer to discuss any corrections required.

A copy of the criteria and a list of all necessary submittals is attached. Any questions regarding this program should be directed to Mr. Marvin Chiong of Development Management Section of the Land Development Division at (818) 458-4932.

JV:ca/cspp

Attach.

COORDINATED SUBDIVISION PROCESSING (CSP) PROGRAM

General Policy and Procedures

For a project to be considered for acceptance into the Coordinated Subdivision Processing (CSP) Program, the following criteria must be met:

- The developer has submitted a written request to the Development Management Section, Land Development Division Attention: Marvin Chiong. The request must indicate the project size, location, and complexity and must be signed by both the developer and the project engineer.
- The tentative map, as well as all other concurrent cases which require approval by the Regional Planning commission or Board of Supervisors, have been approved.
- The Hydrology Study has been approved or is in direct check.
- The project has or will not require approval from Caltrans or a railroad.
- The project has offsite easements or will not require condemnation of off-site easements.
- The project is located in Unincorporated County Territory.

When considering a written request for acceptance of a project into the CSP Program, the Department of Public Works will apply the following criteria:

- The availability of a Land Development Management Agency (LDMA) Project Coordinator. Each Project Coordinator will be assigned a maximum of three concurrent projects.
- Size of the project. Small subdivisions (less than 25 lots) and large subdivisions (over 100 lots) will be given lowest priority.
- Complexity of the project. Projects with complex storm drain systems (PDs), street layout, sewerage systems, Water supply or geotechnical hazards will be given lowest priority.
- Past success/failure of projects entered into the Program by the applying developer and/or engineer.
- The sensitivity of the project (social, environmental, etc.) to the affected public. Projects likely to be delayed by external factors will not be accepted.

Submittal Procedures

- The project engineer will make a coordinated submittal of all improvement plans, the final map, and all support material necessary to be deemed a complete submittal.
- The engineer will submit a written statement that he has reviewed all submittals and found them to be complete, accurate, and consistent.
- A fee of $3,500 for each submitted subdivision unit will be paid at the time of first submittal. This fee is in addition to all other processing fees.
- All submittals are to be made through the assigned LDMA Project Coordinator who will screen the submittals. The project engineer or a qualified representative must be present at the screening.

- Resubmittals must be made within 20 working days of notifications that the plan review was completed.

- All plan review comments must be addressed on the resubmittal.

Review Procedures

- The assigned LDMA Project Coordinator will screen each submittal for completeness then distribute the submittal to the proper sections for review. Incomplete submittals or resubmittals where all plan review comments have not been addressed will be rejected (1st, 2nd, and 3rd submittals).

- The project coordinator will notify each section head that the project is in the CSP Program and will establish a review completion date.

- Each section head is responsible for adhering to the established completed date.

- The Department of Public Works commits to completing a coordinated review of the project within 15 working days of submittal (1st, 2nd, and 3rd submittal).

- When the review of a submittal is complete, the project coordinator will arrange a meeting with the reviewers to determine the project review status and to coordinate all comments and/or requirements to be sent in the review sheets to the applicant, (1st, 2nd submittals).

- When satisfied with the review, the project coordinator will arrange an meeting with the applicant (developer and/or engineer) to resolve review sheet contents. Each section will be represented by a staff person able to answer questions and to approve applicant's replies (1st, 2nd submittals).

Miscellaneous

- The CSP Program is for the first three submittals only. Plans should be in a condition to be approved on the third submittal. Subsequent submittals will be processed on a routine basis.

- Any deviation from these procedures will disqualify the project from the Program. Example: Partial resubmittal such as grading plan only. A disqualified project will be dropped from the Program and receive standard processing from that point forward. There will be no refund of fees, partial or total, for disqualified projects.

- Any substantial revision to the tentative map or its conditions of approval report or hydrology will disqualify the project under its current review. It may later be reinstated as a new project.

- The CSP Program applies only to the reviews made by Land Development and Materials Engineering Divisions and does not apply to reviews by other divisions of the Department of Public Works, such as Traffic and Lighting and Mapping and Property Management, or other departments, such as Fire and Regional Planning Departments.

COUNTY OF LOS ANGELES OF DEPARTMENT PUBLIC WORKS
LAND DEVELOPMENT DIVISION

COORDINATED SUBDIVISION PROCESSING (CSP)

(County Maps Only)

Tract/Parcel Map No._____ Tentative Map Dated _____

Engineer_____ [ ] Plans Accepted

Phone No._____ [ ] Plans Rejected

In order to expedite and properly process your final tract and parcel submittal, the items listed below are required. It is our policy to review only complete submittals.

A. SPECIAL PROCESSING

[ ] 1. Special Processing Fee. (See Schedule on Page 12-2 Chapter 12.)

B. FINAL SUBDIVISION MAPS:

[ ] 1. Prints of final maps: Four (4) sets for subdivision files, map, check, monument inspection, and tax clearance plus one (1) extra set for each required clearance. (Delete 1 set if a monument inspection is not required.)

[ ] 2. Date of approval/expiration of tentative map for city maps and a copy of the conditions of approval for cities where verification of conditions is required.

[ ] 3. Preliminary title report/guarantee or the name order number of the company who will prepare it.

[ ] 4. Complete copies of all deeds referenced on the map or required for the interpretation of deeds referenced on the map.

[ ] 5. Complete copies of all field book pages referenced on the map.

[ ] 6. Complete copies of all other documents and information referenced on the map.

[ ] 7. Mathematical traverses of the boundary of the division of land, block boundaries, not-a-part areas, centerline, loops, and each lot or parcel shown on the map. The mathematical traverses can be copies of hand run or computer/calculator print-outs and must show latitudes and departures or coordinates, areas in square footage, curve data (including tangents), and errors of closure. Traverses are also required for any revisions made on the map after first submittal.

[ ] 8. Two (2) exact scale duplicates of the most recent Assessor Map Book page or pages with the boundary of the proposed division of land outlined in red.

COORDINATED SUBDIVISION PROCESSING (cont.)

Tract/Parcel Map No._____ Tentative Map Dated _____

[ ] 9. Between March 1, and October 31, of each year, submit tax bond declaration plus $100.00 processing fee.

[ ] 10. Two copies of Property Reassessment (Formerly SB 813) Affidavit. (If there is a change in the ownership or new construction completed, after July 1, 1983, tax bond declaration plus $100.00 processing fee is required. (See Item C, 1 on Page 12-2.)

[ ] 11. The following items must be shown on the final map:

- [ ] Labelling of all boundary lines with the reference which established the line.
- [ ] Record data note for compiled parcel maps.
- [ ] Basis of bearings for surveyed maps.

[ ] 12. Processing fees and deposits in accordance with fee schedule on Page 12-12 and minimum deposit schedule on Pages 12-13 and 12-14. (Minimum of the following for 1st submittals): (See Item B beginning on Page 12-2.)

- [ ] a. Map analysis (depends on number of lots/parcels.
- [ ] b. Tax clearance.
- [ ] c. Verification of conditions for final map approval.
- [ ] d. LDMA fee.

C. GRADING PLANS

[ ] 1. Engineer's yardage estimate (showing cut and fill) on plans.

[ ] 2. Checking fee based on larger of cut or fill yardage. (See Schedule on Page 14-17 and 14-18.)

[ ] 3. LDMA surcharge fee (For 1000 cy and below $50 fee or over 1000 cy $120 fee).

[ ] 4. Four (4) sets of legible Grading plans including:

a. Signature stamp or seal, and license expiration date of licensed Civil Engineer.
b. A detailed vicinity map.
c. Existing and proposed contours.
d. Notes as required.
e. Typical details as required.
f. Approval statement and original, manual, signatures of the geotechnical consultants, on each sheet of plans, if Item 5 is required.

[ ] 5. Four (4) sets of preliminary Soils/Geology report(s) for Grading plans showing compacted fills.

[ ] 6. Approved or direct check hydrology study.

COORDINATED SUBDIVISION PROCESSING (cont.)

Tract/Parcel Map No._____ Tentative Map Dated _____

D. STORM DRAIN PLANS

[ ] 1. Engineer's construction cost estimate

[ ] 2. Checking fee or deposit plus LDMA fee Surcharge (See Page 18-9)

[ ] 3. Submit the following number of sets of Storm Drain plans:

- [ ] a. First submittal - 2 sets of Storm Drain plans
- [ ] b. Rechecks -2 sets of Storm Drain plans and check prints

[ ] 4. Submit one set of all supporting plans (if not previously submitted)

- [ ] Road Plan
- [ ] Final Map

[ ] 5. Check for general items to be shown on all Storm Drain plans. (See Chapter 36 of the Land Development Procedure Manual for details.)

- [ ] a. Title Block on every page
- [ ] b. General notes (including all structural and special construction notes as needed.)
- [ ] c. Location Map showing the proximity of the job site
- [ ] d. Index map showing location of proposed storm drain lines and page location
- [ ] e. Bench Mark
- [ ] f. North arrows
- [ ] g. Hydraulic Elements Table
- [ ] h. List of all standard drawings used (L.A.C.F.C.D., A.P.W.A. Department of Public Works and County Engineer)
- [ ] i. Standard structures and required call outs
- [ ] j. Engineers signature and seal on each sheet of plans
- [ ] k. Plan and Profile views for all storm drain lines
- [ ] l. Scales (plan, profiles, index maps, details, etc.)
- [ ] m. Hydraulic Elements Table
- [ ] n. Required storm drain profile view information as follows:

  Pipe size, D-load, Design Flow, Stationing, Slopes, Structures, Utilities, Existing and Proposed Ground, Hydraulic Grade lines, Scale and any special construction notes, I.e., special pipe bedding, additional concrete cover, trenching instructions, etc. (See Chapter 36 of the Land Development Division Procedure Manual.

NOTE: PLAN & PROFILES SHOULD BE SHOWN ON DRAWINGS WITH UPSTREAM GRADIENT & STATIONING PROCEEDING FROM LEFT TO RIGHT.

COORDINATED SUBDIVISION PROCESSING (cont.)

Tract/Parcel Map No._____Tentative Map Dated _____

[ ] o. Required storm drain plan view information as follows:

Storm drain alignment, curve data, streets, catch basin and inlet facilities, drawing scale, north arrow, easements shown with bearings and distances, contours and topography shown at all inlets and outlets, access drives that lead to Flood Control facilities, special structures and details, dimensions and sizes, cross section details, fencing and access gates, grading related to the storm drain plans, debris facilities, slopes and elevations, lot lines and tract boundaries, etc.

[ ] p. Required Detention, Debris and Retention Facility information as follows:

Debris cone area, required and provided basin storage volume, proposed grading and contours that will convey flows to basin, elevations at the top and bottom of all slopes, A.C. paving areas, facing slob details, debris slopes shown in profile view, fencing layout and details for all structures, cut of walls, facing slabs, outlet works, inlets, access roads, driveways, etc.

Details and examples of required drafting and layout of plans can be obtained by examples in the L.A.C.F.C.D. Drafting standards Manual, Chapter 36 of the Land Development Procedure Manual and examples of previous plans that have been approved are available in the Map Vault located in the lobby.

E. ROAD PLANS

[ ] 1. Tentative Map conditions of approval.

[ ] 2. Engineer's construction cost estimate for Bond Purposes (see Page 11-14).

[ ] 3. Checking deposit or fee.

[ ] 4. LDMA surcharge fee.

[ ] 5. Two (2) sets of Road Plans with one extra title sheet with Signature, stamp or seal and license expiration date of licensed Civil Engineer.

[ ] 6. "Utility Map" (Copy of Final Map with utilities shown in red.)

[ ] 7. Copy of approved or direct check hydrology study

[ ] 8. One set each of all supporting plans/maps:

[ ] a. Grading Plan
[ ] b. Storm Drain Plan
[ ] c. Final Subdivision Maps for Road file
[ ] d. Final Subdivision Map for street light estimate.
[ ] e. Deed Maps for file if Deeded Street.

NOTE: Map and Road Plan horizontal alignment must agree.

COORDINATED SUBDIVISION PROCESSING (cont.)

Tract/Parcel Map No._____ Tentative Map Dated _____

[ ] 9. Complete cross-sections (preferably extended 10 feet beyond right of way) whenever joining or capping of existing street is involved. Cross-section and road plan stationing must agree.

[ ] 10. Copy of Bench Mark records from the Survey Division.

[ ] 11. Profiles of streets extended beyond the tract boundary, a minimum distance of 300 feet (100 feet if curbs are existing.)

[ ] 12. If Deeded Street, Deed Map transparency.

[ ] 13. Submit hard copy profiles (showing c and both E.G. 's) when intersection design of highways are required.

[ ] 14. Approved Interdepartmental Engineering Committee (I.E.C.) alignment for all Major and Secondary highways.

F. SEWER PLANS

[ ] 1. Private Contract Sewer Plan Check Fee Computation. (See Page 23-15.)

[ ] 2. Checking fee or deposit

[ ] 3. L.D.M.A. Fees. (See Page 23-15.)

[ ] 4. Two (2) sets of Sewer plans with signature stamp or seal and license expiration date of licensed civil engineer.

[ ] 5. Separate reproducible index map (scale 1" = 600'.)

[ ] 6. Area Study

[ ] 7. Field notes showing ties to existing sewer outlets, elevations of existing inlets and outlets, and existing elevations of surface over proposed sewer.

[ ] 8. One (1) set each of all supporting plans/map.

- [ ] a. Final Subdivision Map.
- [ ] b. Grading Plan.
- [ ] c. Storm Drain Plan.
- [ ] d. Street Plan.

[ ] 9. Easement sketch when proposed sewer crosses through private property.

[ ] 10. Copy of existing sewer plan showing outlet for proposed sewer.

COORDINATED SUBDIVISION PROCESSING (cont.)

Tract/Parcel Map No._____ Tentative Map Dated _____

G. WATER PLANS

[ ] 1. Engineer's cost estimate for the construction of the water system for bond purposes. (See Page 25-16 and 25-17, Chapter 25.)

[ ] 2. Plan Checking fee or minimum deposit of $600.

[ ] 3. L.D.M.A. Fees. (See Page 9 - 3 of Chapter 9.)

[ ] 4. Two (2) sets of Water plans with signature, stamp or seal, and license expiration date of a licensed Civil Engineer and approved by the water purveyor.

[ ] 5. Statement of water service from the water purveyor.

[ ] 6. Fire Department requirements.

[ ] 7. Water improvements calculations.

[ ] 8. One (1) set each of all related supporting plans/map:

- [ ] a. Final Map.
- [ ] b. Grading Plan.
- [ ] c. Storm Drain Plan.
- [ ] d. Street Plan.
- [ ] e. Sewer Plan.

_____ Authorized Agent

_____ Firm Name

_____ Date

_____ Telephone Number

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS

LETTER OF CREDIT
REQUEST FOR APPROVAL

Present completed form (items 1 to 10) to Department of Public Works, Fiscal Division, Revenue Management Section Head.

1. Applicant Name and Address _____

_____

_____

_____

2. Applicant Telephone Number _____
3. Type of Work Secured by Letter of Credit _____
(Clearly state purpose of security)

_____

_____

_____

_____

4. Contract No. _____ Date of Contract _____
5. Expiration Date of Contract _____ (Attach Contract)
6. Amount of Security Required $_____
7. Term (Number of Years) _____
8. Proposed Financial Institution _____

Branch Number and Address _____
(Branch)

_____
(Address)

_____

_____

Name of Financial Institution Contact _____ Title _____

Telephone Number _____

9. DPW Responsible Division _____

10. DPW Responsible Division Contact _____

Telephone Number _____

Reason for Rejection: _____

11. Job Number Name/ _____
(to be provided by responsible division)

12. Fund Number _____
(to be provided by responsible division)

13. Instructions to Fiscal Division to draw L/C if it is about to expire and you have received no other instructions.

Draw L/C _____ Do not draw L/C _____
(check & initial) (check & initial)

If this area is left blank by responsible Division, Fiscal Division will not automatically draw expiring L/C.

Fiscal Division Approval: Gerry Findley - Depositor Rating Code _____
Gerry Findley - Lender Rating Code _____
Gerry Findley - Reporting Quarter _____

TTC Contact _____

Date _____ Comments _____

_____

_____

☐ Fiscal Division Approval _____ _____
Division Chief, Date
Assistant Division Chief,
or Accounting Officer III only

Approval Expiration Date _____
(Letter of Credit cannot be dated beyond this date)

☐ Fiscal Division Rejection _____ _____
Division Chief, Date
Assistant Division Chief,
or Accounting Officer III only

CHAPTER 12

DRAFT

SUBDIVISION MAP PROCESSING

Final Tract and final Parcel Maps, reversion to acreage maps, easement dedications, and vacations are processed as follows:

A. Submittal

All subdivision documents for the above described processes are to be submitted to the Land Development Division Processing Center. Final subdivision (tract or parcel) maps may be submitted at any time within two years after the tentative map has been approved. (Time extensions may be granted at end of two years if warranted.) These maps must be prepared by a licensed land surveyor or registered civil engineer qualified to practice land surveying. In certain cases not requiring a new survey or title description a final parcel map may be submitted without being prepared by a person qualified to practice land surveying. (See Chapter 29 of this Manual.) Final tract or parcel maps will be evaluated by the County for compliance with local ordinances and the State Subdivision Map Act as presented Chapter 29 of this Manual.

Final tract or parcel maps must comply with all the conditions of the tentative approval and conform with the mapping standards as established by the Department of Public Works. (See Chapter 29 of this Manual.) In addition to final subdivision map an exact scale duplicate of the most recent Assessor Map Book page or pages with the boundary of the proposed division of land outlined in red must be submitted along with other required items discussed later. Reduced scale duplicates of the Assessor Map Book pages are not acceptable. The exact copy duplicates can be obtained at the Assessor's office, Room 205, Kenneth Hahn Hall of Administration, at 500 West Temple Street, Los Angeles, CA 90012, telephone (213) 974-3420. All final maps must meet the requirements in Chapter 29 of this Manual. If the final map is to be reviewed by the Department of Public Works, the items in the form on Page 12-8 must be met. If the subdivision has been approved by another public agency and all that the Department has to do is to record the final map, the items in the form on Page 12-9 must be met.

At the time of document submittal, certain processing fees must be paid and the applicant must identify the type of review requested by completing in accordance with the instructions, the Post Card Form A (See Pages 12-10 and 12-11.) In this case a "Final Map Review" would be requested. Final maps submitted for the purpose of reverting to acreage land previously subdivided are processed under the same procedures as noted for a final parcel or tract map as described in this Manual.

Easement dedications and vacations can be prepared by separate instruments or shown on a final subdivision map. If vacations are made by separate instruments, the documents are processed by the Mapping and Property Management Division (telephone (818) 458-7048.) If they are part of a final subdivision map, the maps and documents are processed as described in this Manual.

B. Payment of Fees and Deposit

Upon the initial submittal the subdivision map fees must be paid as follows:

1. Subdivisions in Unincorporated County Territory, and City Engineer Cities

If the subdivision is located in unincorporated county territory, cities where the Director of Public Works is the City Engineer or cities where the Regional Planning Commission serves as the City Planning Department, the following fees are collected: map analysis, verification of conditions, and tax clearance process. An LDMA surcharge is required for subdivisions in unincorporated areas. (See form on Page 12-8). Additional fees may be charged during the map review process depending on what items the map contains. (See Page 12-12 for a detailed table of all the fees required for processing a final subdivision map.) Before the final map is approved and the clearance and verification of the subdivision map begins, a deposit that will cover County expenses must be paid. (See minimum deposit schedule on Pages 12-13 and 12-14.) Fee and deposit payments shall be

recorded on a special receipt (see Page 12-15). This information is also noted on cards (see Page 12-16) which are kept in the Processing Center.

The following minimum deposits when applicable, shall be based on the table below and be collected by the Processing Center prior to verifying the final map. (See Memorandum dated May 16, 1991 on Pages 12-13.) Should any employee note that the verification time will be greater than the minimum noted below, he/she is responsible for notifying the Development Management Section and the applicant of the supplemental deposit amount required. All estimates shall be based on $80.00 per hour average cost.

	Estimated Time in hours	Minimum Deposits
Drainage & Grading Verification	10	$800.00
Road Verification (Tract Maps)	4	$320.00
(Parcel Maps)	2	$160.00
Sewer Verification	1	$ 80.00
Water Code Enforcement Verification		
With out plans	2	$160.00
With plans	5	$400.00
Geology and Soils Verifications	6	$480.00

Deposits and supplemental deposits for verification of conditions are shown on a receipt with the code "12" and the word "verification of conditions." A copy of this completed form is submitted to the applicable section either with the development plans or separately.

2. Subdivisions in Cities with own City Engineers and Planning Departments.

If the subdivision is located in a city with its own City Engineer and Planning Department, the following fees are required: verification of conditions, tax clearance process, Recording Fee, and tax bond processing. (See form on Page 12-9 and Fee Schedule on Page 12-12.)

C. Review, Verification and Clearance

The final map review and processing is as follows:

1. Subdivision Section

Subdivision Section reviews the final subdivision map, all the submitted information (see Item A above) and determines if it conforms with State and local codes and ordinances. Correction lists (see Page 12-17 through 12-19 for tract maps and Pages 12-20 through 12-22 for parcel maps) are used in the review process when completed. Chapter 29 of this Manual contains an explanation of each item on these correction lists. These lists are sent to the engineer/surveyor together with a set of the subdivision map prints, showing errors and omissions. Before final approval all tentative map conditions must be met including all improvements. As a result, other sections are consulted to determine if all conditions of approval have been met.

Before the Subdivision Map Unit can issue a clearance to record a subdivision, a determination must be made regarding posting a security for tax payments in order to meet the requirements of Part 0.5

of the California Revenue and Taxation Code and a report that all monuments have been set from the Survey Division or a security posted. (See Chapter 52 of this Manual.)

A Tax Bond Declaration must be completed in order to make a determination whether or not a supplement tax bond will be required. According to the Government Code, a subdivision cannot be recorded with at tax lean.

The Tax Bond Estimate Declaration Instructions on Pages 12-23 and 12-24 must be followed in the completion of the Bond Estimate Declaration on Page 12-25. An original signed copy and a copy are required

The completed original copy and the copy of the Tax Bond Declaration Form are sent to the Subdivision Section for verification of the tax parcels listed as being within the boundaries of the subdivision. Once verified, the original signed form is sent to the Treasurer-Tax Collector. The other copy is retained in the project subdivision file. The Treasurer-Tax Collector searches the records using the information on the Form to verify property ownership and to establish a regular or supplemental tax bond amount.

In order to obtain a tax clearance, the procedure on Page 12-26 must be followed and the "Five-Year Tax Information" from the Treasurer Tax Collector submitted. The form tax clearance information on Page 12-27 should be used. The developer has the option of obtaining the information from a Title company and submitting an original signed copy to the Department or the information will be obtained by Department personnel and the cost for obtaining this information will be charged to the developer.

2. Drainage and Grading Section

A map clearance reports that all drainage and grading conditions of tentative map approval have been met must be submitted by the Drainage and Grading Section to Subdivision Section. (See Chapter 14 of this Manual.) The flood hazard or local drainage must be identified and mitigating measures which could include drainage improvements have been approved. This may require a grading plan and/or private drain for public maintenance which may then require review of the final map for storm drain easements. (See Chapter 17 of this Manual.) Drainage plan checkers must review and approve bond amounts to guarantee work completion for private drains. Any deed restriction letters, off-site grading and drainage letters, off-site easement documents, drainage agreements and fees must be submitted and appropriate approvals obtained prior to the issuance of the map clearance. Existing County drainage easements must also be shown on the final map.

Upon receiving the verification deposit receipt and a final map, the clearance review begins. If the conditions of approval have <u>not</u> been met and/or the final map does <u>not</u> reflect the required easements properly, the letter form on Page 12-28 is completed and sent to LDMA. Once this section's conditions have been met, the clearance for recordation Form on Page 12-29 is sent to LDMA.

For cities that handle their final subdivision map processing, the Drainage and Grading Section must also provide some final subdivision map processing services. This responsibility consists of verifying that all Flood Control District easements and other restrictions have been shown on the final map.

3. Road, Sewer and Water Section

a. Road Clearance

The Road Plan Check Subunit is responsible for verifying that the final map and road plans including tree lists and street lighting are compatible. The subunit must also verify that the applicable agreements and sufficient bond amounts have been submitted to guarantee completion have been submitted to the Bond Administration Subunit in Development

Management Section. The form on Page 12-30 is utilized as a check list and is placed in the Road File.

If the subdivision is located within an approved or proposed "Bridge and Major Thoroughfare (B & T)) Construction Fee District," the fee rates noted in the conditions of subdivision approval must be paid if they are based on acreage or number of units. (See Chapter 11 of this Manual.) If this is an approved district, the entire fee must be paid. If this is proposed district, a secured agreement providing for payment of the fee at the time of district formation must be submitted. Security for the agreement shall be a letter of credit, or other acceptable form of negotiable security.

When the developer is ready to pay the B & T Fee, the Land Development Processing Center will instruct the developer to submit both the fee and the Construction Fee Data Sheet to the cashier's office. The cashier's office will complete Part E of the Construction Fee Data Sheet, accept the deposit and issue a receipt. (See Chapter 11 of this Manual.) A copy of the Fee Data Sheet should be made by the cashier for the Fiscal Division's records. The developer will then return the receipt and the completed Fee Data Sheet to the processing center, where the fulfillment of their B&T District obligation will be noted.

The processing center will then retain the original Construction Fee Data Sheet and distribute copies according to the list of carbon copies at the bottom of the sheet. The Accounts Receivable Section of Fiscal Division will use the Construction Fee Data Sheet to input the pertinent data into the correct fund.

In addition, the agreements noted in Chapter 11 of this Manual must be completed and submitted. The original of all agreements and securities are held in Development Management Section. (See Chapter 13 of this Manual.)

Upon receiving the verification deposit receipt and a final map, the clearance review begins. If the conditions of approval have not been met and/or the final map does not reflect the required rights-of-way properly, the letter form on Page 12-31 is completed and sent to LDMA.

Once the conditions of tentative map approval have been met and proof of fee payments and security deposits have been received, the Road Plan Check Subunit can issue final clearance forms. These forms are completed by marking types of easements and/or right-of-ways that are part of this subdivision. In addition, the conditions under which the clearance was given, the improvements status and the voidance date of the clearance are noted. The conditions of clearance usually consist of other tracts and drainage acceptance letters having prior or concurrent recordation. Once all is in order to clear the final map, the letter form on Page 12-32 is completed and sent to LDMA. A copy is retained in the subdivision file.

b. Sewer Clearance

The Sewer Plan Check Subunit is responsible for verifying that the final subdivision map and the sewer plans are compatible. Upon receiving the verification deposit receipt and a final map, the clearance review begins. If the conditions of approval have not been met and/or the final map does not reflect the required easements, the letter form on Page 12-33 is completed and sent to LDMA. Once all conditions are met, a clearance form (Page 12-34) is sent to LDMA stating that the Private Contract Sewer requirements have been met or the plans have been approved and bonds posted to guarantee sewer completion. (See Chapter 23 of this Manual.)

c. Water System Clearance

The Water Code Enforcement Subunit is responsible for verifying that the final subdivision map and the water system requirements have been satisfied or that the water facility plans have been approved and bonds have been posted to guarantee project completion. Upon receiving the verification deposit receipt and a final map, the clearance review begins. If the conditions of approval have not been met and/or the final map does not reflect the required easements, the letter form on Page 12-35 is completed and sent to LDMA. Once satisfied a clearance letter form on Page 12-36 is sent to LDMA.

4. Materials Engineering Division

The procedures to obtain clearance of a final map for recordation from this Division are on the guidelines and check list provided at the end of this chapter (Page 12-38). Upon receiving the verification deposit receipt and a final map, the clearance review begins. Reviews for the Materials Engineering Division are coordinated and sent to LDMA by the Geology Development Review Section.

The Geology Development Review Unit reviews the final subdivision maps and the "Restricted Use Area" report if required, and verifies that tentative map conditions have been met and required Restricted Use Areas have been properly defined on the final map. The "Restricted Use Area" geotechnical report must include a statement on the presence or absence of "Restrictive Use Areas."

If grading is proposed, an approved grading plan is required. A geologic corrective improvement bond is required for mitigative measures. The amount of this bond is determined by the design engineer in coordination with the geotechnical consultants. A labor and materials bond of one-half of this amount is also required. Chapter 13 of this Manual notes the procedures for processing this bond.

The geologic bond can be released when all grading and subdivision corrective work is completed and approved by final geotechnical reports and the Division approves all rough grading.

If required by the tentative map conditions of approval, the Geotechnical Engineering Development Review Unit reviews the final subdivision maps and associated reports to determine if conditions of final approval have been met. This service is required only when geotechnical engineering judgment is required such as establishing or revising Restricted Use Areas or verifying buildable sites and safe access to each lot. Any comment is given to the Geology Development Review Section for coordination and distribution.

Once the reviews and/or site inspections have been completed and it has been determined that the development has been in compliance with the conditions of tentative map approval, a written approval review is completed and sent to LDMA. In addition, if Restrictive Use Areas exist, three copies of the approved final map are required. One copy is sent to the appropriate Building and Safety District Office for use in controlling the issuance of permits until the map is recorded. The second copy is sent to LDMA attached to the approval letter. The third copy is retained in the Materials Engineering Division's geotechnical files.

5. Survey Division

Survey Division is responsible for verifying that permanent survey monuments have been set according to County Code. A copy of the subdivision map is sent to Survey Division. The Surveyor visits the site and marks on the map that he has located all monuments. Their copy of the final subdivision map is returned to Subdivision Section and become part of that Section's verification and clearance process. (See Item 1 beginning on Page 12-3.) The marked map is held in that Section until the tract records.

If an additional monument is needed, the estimated cost to place the monument is determined by the surveyor. The engineer is notified to either set the monument or to post a bond with the Bond Administration Subunit (see Item 6, below) that guarantees placement of the monument by a certain time.

6. Bond Administration Subunit (Development Management Section)

The Bond Administration Subunit of Development Management Section reviews and holds all submitted bonds and agreements required to record a final map to determine if they meet the requirements of tentative approval or the County Code. The required bonds are described in Chapter 13 of this Manual. It should be noted the Final Maps for reversion to acreage do not require tax payment bonds as described in Chapters 13 and 29 of this Manual. This subunit only processes bonds and agreements pertaining to final subdivision maps. Other bonds and agreements are processed elsewhere. A report that all the required bonds guaranteeing the complete development of the subdivision have been received is entered into a computer record by the Bond Administration Subunit.

7. Land Development Management Agency (Development Management Section)

All subdivision clearances from Drainage and Grading, Road, Sewer and Water, Geology and Soils Sections are sent to the Land Development Management Agency (LDMA) in the Development Management Section. The clearances are noted in the Subdivision computer record, and the bond amounts noted and verified. The clearances are then placed in the Subdivision File. Once all clearances have been received, the subdivision file is sent to the Subdivision Section for subdivision recordation as described in Item F below.

Should any of the above reviewers require additional information or additional fees, he/she should contact the engineer or developer. The review process ceases until additional information and fees are received. The status of the review is maintained by LDMA along with a card file (see Page 12-16) which is kept in the Development Management Section. This card notes what fees have been received and what services have been performed.

D. Resubmittals

Additional information and revised final subdivision maps must be submitted in the same manner that the original information was submitted. (See Item A on Page 12-1.) It will be of great assistance in the processing if the name of reviewer is noted on the submitted postcard. It is very important that work being reviewed by a private consultant be noted on the postcard and that the counter personnel are advised. For further information, contact the program coordinator at (818) 458-4930.

E. Recordation of Final Maps without Final Development Plan Approval

Occasionally, the Department will permit recordation of final subdivision maps without all development plans satisfying the tentative map conditions being approved by the Department. A procedure beginning on Page 12-40 has been developed to permit this action. To begin this request, a letter requesting recordation must be submitted. (See sample letter on Page 12-41.) The engineer must agree to have the plans in a fully approved state within 90 days. The guidelines that must be met before County approval are on Page 12-42. A checklist is one Page 12-43.

Before approval by the County, each affected unit will review the submitted documents and verify that they are accurate and meet the guidelines. The flow chart for this procedure is on Page 12-44. If all is in order, the Division will process the recording of the final subdivision map.

F. Final Approval and Recordation

Once the review process is completed and clearances are obtained from all the affected units, sections, divisions, and agencies and all required receipts for prepayments, bonds and agreements to guarantee faithful performance are received, the City or County Engineer's statement and the City or County Surveyor's Statement must be placed on the map. (See Page 12-45 for a copy of these statements.) The final subdivision map can then be sent to the appropriate agency for approval. (See list on Page 12-46 and in Chapter 50 of this Manual.) If the subdivision is within a City, it is sent to the City. A sample letter for tract recordation is shown on Page 12-47. A sample letter of parcel map recordation with a subdivider's Certificate is shown on Page 12-48. A sample letter of parcel map recordation with an owner's certificate is shown on Page 12-49. If the subdivision is within the unincorporated County territory, a letter is sent to the Board of Supervisors for final tract map approval. A parcel map within unincorporated County is approved by the Director of Public Works.

Once the subdivision is approved, it is filed with the office of the Register-Recorder by the Subdivision Section. Before any lots or parcels within a subdivision can be sold or leased, a public report describing all aspects of the subdivision is required to be submitted by the developer to the State Real Estate Commission. This procedure is described in the California Permit Handbook. (See Item F, Page 50-5 of Chapter 50 regarding obtaining this Handbook.)

COUNTY OF LOS ANGELES OF DEPARTMENT PUBLIC WORKS
BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION
SUBDIVISION MAP SUBMITTALS
(County, City Engineer and Contract City Maps)

Engineer _____ Phone No. _____

Date _____ ( ) Plans Accepted

TR/PM No. _____ ( ) Plans Rejected

In order to expedite and properly process your final tract and parcel submittal, the items listed below are required. It is our policy to review only complete submittals.

( ) 1. Prints of final maps:
   ( ) County and City Engineer Maps: Four (4) sets for subdivision file, map, check, monument inspection and tax clearance plus one (1) extra set for each other required clearance. (Delete 1 set if a monument inspection is not required.)
   ( ) Contract City Map: Five (5) sets for subdivision file, map check, tax clearance, monument inspection and street names. (Delete 1 set if a monument inspection is not required.) (Require 3 extra sets if in Long Beach.)

( ) 2. Date of approval/expiration of tentative map for city maps and a copy of the conditions of approval for cities where verification of conditions is required.

( ) 3. Preliminary title report/guarantee or the name and order number of the company who will prepare it.

( ) 4. Complete copies of all deeds referenced on the map or required for the interpretation of deeds referenced on the map.

( ) 5. Complete copies of all field book pages referenced on the map.

( ) 6. Complete copies of all other documents and information referenced on the map.

( ) 7. Mathematical traverses of the boundary of the division of land, block boundaries, not-a-part areas, centerline loops and each lot or parcel shown on the map. The mathematical traverses can be copies of hand run or computer/calculator printouts and must show latitudes and departures or coordinates, areas in square footage, curve data (including tangents) and errors of closure. Traverses are also required for any revisions made on the map after first submittal.

( ) 8. Two (2) exact scale duplicates of the most recent Assessor Map Book page or pages with the boundary of the proposed division of land outlined in red.

( ) 9. Submit the original signed copy of the tax bond declaration and a copy plus $100.00 processing fee.

( ) 10. The following items must be shown on the final map:

   ( ) a. Labeling of all boundary lines with the reference which established the line.
   ( ) b. Record data note for compiled parcel maps.
   ( ) c. Basis of bearings for surveyed maps.

( ) 11. Processing fees and deposits in accordance with fee Schedule on Page 12-12 and minimum deposit schedule on Page 12-13 and 12-14 (minimum of the following for 1st submittals): (See Item B beginning on Page 12-2.)

   ( ) a. Map analysis (depends on number of lots/parcels.
   ( ) b. Tax clearance.
   ( ) c. Verification of conditions for final map approval.
   ( ) d. LDMA fee (if subdivision is in Unincorporated areas).

BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION

TRACT & PARCEL MAPS
(Cities who process Subdivisions)

Engineer _____ Phone #_____

Date _____ [ ] Plans Accepted

TRACT/PARCEL #_____ [ ] Plans Rejected

In order to expedite and properly process your submittal, the items listed below are required. It is our policy to review only complete submittals.

[ ] 1. Two (2) sets of Prints of final Maps (for tax and street names).*

[ ] 2. Date of approval/expiration of tentative map for city maps.

[ ] 3. Two (2) exact scale duplicate of the most recent Assessor Map Book page or pages with the boundary of the proposed division of land outlined red.

[ ] 4. Title Report/Guarantee.

[ ] 5. An original copy of the tax bond regardless of what month the map was processed.

[ ] 6. Tax Clearance Fee (see Fee Schedule on Page 12-12).

[ ] 7. The original signed copy of the tax bond declaration and a copy plus $100 processing fee.

[ ] 8. Recording fee [first sheet $6, additional sheets, $3 each].

*No prints are normally required for City of Los Angeles maps. The City sends copies directly to the Subdivision Section.

A 14519

Date: _____

Complete only those parts of this card that apply.

1. Project Address: _____
2. TR / PM (Tentative TR / PM) No(s): _____
3. Circle type and give project number of submittal:
   PD/PC/DS/MTD/Hydrology/Drainage Concept (No. _____)
   ☐ TO FINAL MAP ☐ TO DRAINAGE ☐ TO SEWER ☐ TO WATER ☐ TO ROAD
4. Indicate status of the Hydrology Study: ☐ GEOLOGY ☐ SOILS
   ☐ N/A ☐ APPROVED ☐ DIRECT CHECK
5. Type of submittal, if not listed above:
6. Comments:

_____ ( ) _____

Contact Person / Company Telephone No.

Los Angeles County
Department of Public Works
Land Development Division
P. O. Box 1460
Alhambra, CA 91802-1460

_____

_____

_____

48-0049 DPW 11/90
76N657

A 14519

GENERAL INSTRUCTIONS

1. This side of the card is to be completed by the applicant.
2. Note the type of review and its status.
3. Note the name and address of the applicant.
4. A separate card must be completed for each submittal (or destination).

12-13

Pick-Up Person/Company _____ Date _____

DEPARTMENT USE ONLY

☐ First Submittal ☐ Capital ☐ Fast Track ☐ Resubmittal ☐ Revision

Estimated completion date: _____

Comments:

Counter Person _____ Date _____

☐ FINAL MAP ☐ DRAINAGE ☐ SEWER ☐ WATER ☐ ROAD ☐ GEOLOGY ☐ SOILS

Date: _____

ALHAMBRA OFFICE CLOSED FRIDAYS

Project Address: _____

TR / PM No(s): _____, _____, _____

Plan Check No.: _____

The plans / maps / review sheets for the project listed above have been:

☐ APPROVED; the required permits may be obtained / maps are held pending at the Processing Center

☐ REVIEWED; corrections are required; please pick up plans / maps / review sheets at the Processing Center

☐ CONTRACTED OUT; _____ _____

Private Consultant / Phone No. Date

If you have any questions, please contact the Processing Center at (818) 458-4930.

Plan Checker _____ Date _____

GENERAL INSTRUCTIONS

1. This side of the card is to be completed by County personnel as review progresses.
2. Once the review is completed, Processing Center personnel will mail the card to the noted address to notify the client that the plans and review sheets are ready to be picked up.

SUBDIVISION PROCESSING FEES - EFFECTIVE JULY 25, 1990

The following subdivision processing and plan check fees/deposits are collected by the Department of Public Works:

Category	Fee
Map Analysis for Tracts	
1-5 Lots	$ 900
6-10 Lots	$1,000
11-25 Lots	$1,690
26-50 Lots	$2,600
51-100 Lots	$3,900
101-150 Lots	$5,850
151 or more Lots	$7,800
Map Analysis for Parcel Maps	
1-4 Parcels	$ 840
5-10 Parcels	$ 980
11-50 Parcels	$1,525
51-or more Parcels	$2,685
Easement Checking for Tracts	$ 200
Easement Checking for Parcels	$ 160
Monument Inspection, each	$ 150
Verification of Conditions on Final Subdivision Map	
County	$ 150
City	$ 150
Agreement and/or Improvement Security, each	$ 200
Extension of time for improvement agreement, each	$ 200
Fourth submittal of original and/or prints	$ 375
Sixth submittal of originals and/or prints	$1,250
Eighth and each subsequent submittal of originals and/or prints, each	$1,500
Tax Bond Processing	$ 100
Tax Clearance Processing (See Item C 1 beginning on Page 12-2)	
5 years history provided by applicant	$ 325
5 years history provided by the County	$ 600
Recording Fee	
First sheet	$ 6
Additional sheets, each	$ 3
LDMA Surcharge (County maps only)	
Tract map	$ 300
Parcel map	$ 100
Overtime	
Tract map	$1,000
Parcel map	$ 700
Coordinated Subdivision Processing Program	$3,500

May 16, 1991

TO: Victor C. Martinez
Materials Engineering Division

FROM: N. C. Datwyler
Building and Safety/Land Development Division

VERIFICATION OF APPROVAL CONDITIONS OF FINAL SUBDIVISION MAPS

Both the County and the Los Angeles County Flood Control District Codes require that we verify that the conditions of tentative map approval have been met before the final subdivision map can be allowed to be filed. These codes also require that sufficient funds shall be deposited with the Department to cover the cost of this verification.

The following minimum deposits shall be based on the table below and be collected by the Processing Center prior to verifying the final map. Should any employee note that the verification time will be greater than the minimum noted below, he/she is responsible for notifying the Development Management Section and the applicant of the supplemental deposit amount required. All estimates shall be based on $60.00 per hour average cost.

	Estimated Time in hours	Minimum Deposits
Drainage & Grading Verification	10	$800
Road Verification (Tract Maps)	4	$320
(Parcel Maps)	2	$160
Sewer Verification	1	$ 80
Water Code Enforcement Verification		
With out plans	2	$160
With plans	5	$400
Geology and Geotechnical Engineering Verifications	6	$480

Deposits and supplemental deposits for verification of conditions are shown on a receipt with the code "12" and the word "verification of conditions." A copy of this completed form is submitted to the applicable section either with the development plans or separately.

(Minimum Deposits 03/94)

All Divisions, Sections and Units which require the verification of conditions with the exception of the Subdivision Section shall charge their time to the job number "L12" plus the five digit number of the tract or parcel map. Should a reviewer exceed the allotted time, the reviewer is responsible for contacting the applicant and obtaining additional deposit funds before issuing a clearance.

CGS:ml
L-O/DISKC/FEES1

C. Sudduth
M. Chiong
D. Diotalevi
T. Hoagland

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

TRACT No. _____

PLAN CHECK SERVICES CONTRACT
(TRACT MAPS)

DEPARTMENT RECEIPT No. _____ DATE _____

PLEASE PRINT

NON-SUBDIVISION PROJECT NO./ADDRESS _____ CITY _____ ZIP CODE _____

APPLICANT/ENGINEER _____

ADDRESS _____ CITY _____ ZIP CODE _____

Owner/Subdivider

I am/We are the owners/agent for the owner of this project. _____ agree(s) to be responsible for payment of any additional fees or deposits which are required in connection with this

BILLS SHOULD BE DIRECTED TO:

_____

_____

_____

REFUNDS SHOULD BE DIRECTED TO:

_____

_____

_____

OWNER'S NAME _____ AGENT'S NAME _____

OWNER'S SIGNATURE _____ AGENT'S SIGNATURE _____

**** Further deposits will be required if actual costs exceed the amounts. (L.D.D. will attach job control form.)***

	JOB No.	FUND	REVENUE SOURCE	TRUST BAL. SHT. ACCT.	DESCRIPTION	INITIAL/SUPPLEMENTAL FEE/DEPOSIT
1. SUBDIVISION	LX0000038	A01	9105		MAP ANALYSIS/4th, 6th, 8th	$
	LX0000041	A01	9128		EASEMENT CHECKING	
	LX0000052	A01	9140		MONUMENT CHECKING	
	LX0000045*	A01	9130		VERIFICATION OF CONDITIONS	
	LX0000054	A01	9148		TAX CLEARANCE PROCESSING	
	LX0000056	A01	9152		TAX BOND PROCESSING	
	LX0000808	A01	9174		BOND AGREEMENT PROCESSING	
	LX0001080	A01	9161		WAIVER/CERT. OF COMPLIANCE	
	LX0000081	A01	9162		DEED PREPARATION	
	LX0001083	A01	9164		DEED PREPARATION (No TR)	
	*LXT_____	A01	9155	V09-7721	OVERTIME	
2. DRAINAGE	*LX_____	B07	9228	SP8-7718	P.D./HYDROLOGY	
	*LX_____	B07	9176	SP8-7718	HYDROLOGY STUDY	
	*LXB_____	B07	9218	SP8-7755	M.T.D.	
	LX0000020	B07	9245		CITY FINAL MAP	
	LX0001013	B07	9256		FLOOD HAZARD REPORTS	
3. ROAD	LX0000068	B03	9234		STREET PLAN CHECK	
4. SEWER	LX0000017	A01	9210		SEWER REIMBURSEMENTS	
	LX0001117	A01	9210		SEWER REIMBURSEMENTS (No TR)	
	LX0000062	A01	9526		SEWER PLAN CHECK	
	LX0000064	A01	9530		SEWER EASEMENTS	
5. WATER	LX0000061	A01	9229		WATER PLAN CHECK	
6. LDMA	LX0010102	A01	9248	V11-7747	LDMA SERVICES	
	FM _____ (PW96010) + RD _____ (PW96019) + PD _____ (PW96012/PW96013) + SWR _____ (PW96014) + WTR _____ (PW96015)					=$
7. *VERIFICATION FEES:						
	LXA_____	A01	9157	V09-7717	VERIFICATION (TRACT MAP)	
	DR/GR _____ + GEO _____ + SWR _____ + WTR _____ + RD _____					=$
8. OTHERS	LX0000151	A01	9181	V09-7759	FILING	
	LX_____				_____	

CASHIER _____ (SIGNATURE) CHECK No. _____ TOTAL: $ _____

PROCESSED BY: _____ No. 001121

48-0037 DPW 7/92 ORIGINAL – FILE GREEN – COUNTER CANARY – CUSTOMER PINK – FISCAL GOLDENROD – OTHER

12-15-1

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

PARCEL No. _____

PLAN CHECK SERVICES CONTRACT

(PARCEL MAPS)

DEPARTMENT RECEIPT No. _____ DATE _____

PLEASE PRINT

NON-SUBDIVISION PROJECT NO./ADDRESS _____ CITY _____ ZIP CODE _____

APPLICANT/ENGINEER _____

ADDRESS _____ CITY _____ ZIP CODE _____

Owner/Subdivider

I am/We are the owners/agent for the owner of this project. _____ agree(s) to be responsible for payment of any additional fees or deposits which are required in connection with this

BILLS SHOULD BE DIRECTED TO:

_____

_____

_____

REFUNDS SHOULD BE DIRECTED TO:

_____

_____

_____

OWNER'S NAME _____ AGENT'S NAME _____

OWNER'S SIGNATURE _____ AGENT'S SIGNATURE _____

* ***Further deposits will be required if actual costs exceed the amounts. (L.D.D. will attach job control form.)***

	JOB No.	FUND	REVENUE SOURCE	TRUST BAL. SHT. ACCT.	DESCRIPTION	INITIAL/SUPPLEMENTAL FEE/DEPOSIT
1. SUBDIVISION	LX0000035	A01	9104		MAP ANALYSIS/4th, 6th, 8th	$
	LX0000042	A01	9129		EASEMENT CHECKING	
	LX0000053	A01	9142		MONUMENT CHECKING	
	LX0000046	A01	9135		VERIFICATION OF CONDITIONS	
	LX0000055	A01	9150		TAX CLEARANCE PROCESSING	
	LX0000057	A01	9154		TAX BOND PROCESSING	
	LX0000909	A01	9175		BOND AGREEMENT PROCESSING	
	LX0001080	A01	9161		WAIVER/CERT. OF COMPLIANCE	
	LX0000082	A01	9163		DEED PREPARATION	
	LX0001083	A01	9164		DEED PREPARATION (No PM)	
	*LXP_____	A01	9156	V09-7721	OVERTIME	
2. DRAINAGE	*LX_____	B07	9228	SP8-7718	P.D./HYDROLOGY	
	*LX_____	B07	9176	SP8-7718	HYDROLOGY STUDY	
	*LXB_____	B07	9218	SP8-7755	M.T.D.	
	LX0000020	B07	9245		CITY FINAL MAP	
	LX0001013	B07	9256		FLOOD HAZARD REPORTS	
3. ROAD	LX0000068	B03	9234		STREET PLAN CHECK	
4. SEWER	LX0000017	A01	9210		SEWER REIMBURSEMENTS	
	LX0001117	A01	9210		SEWER REIMBURSEMENTS (No PM)	
	LX0000062	A01	9526		SEWER PLAN CHECK	
	LX0000064	A01	9530		SEWER EASEMENTS	
5. WATER	LX0000061	A01	9229		WATER PLAN CHECK	
6. LDMA	LX0001002	A01	9248	V11-7747	LDMA SERVICES	

FM _____ (PW96010) + RD _____ (PW96019) + PD _____ (PW96012/PW96013) + SWR _____ (PW96014) + WTR _____ (PW96015) =$ _____

7. *VERIFICATION FEES:

	LXA_____	A01	9157	V09-7717	VERIFICATION (TRACT MAP)

DR/GR _____ + GEO _____ + SWR _____ + WTR _____ + RD _____ =$ _____

8. OTHERS	LX0000152	A01	9182	V09-7759	FILING	
	LX_____				_____	

CASHIER _____ (SIGNATURE) CHECK No. _____ TOTAL: $ _____

PROCESSED BY: _____ No. 000733

48-0037A DPW 7/92 ORIGINAL – FILE GREEN – COUNTER CANARY – CUSTOMER PINK – FISCAL GOLDENROD – OTHER

12-15-00

PARCEL MAP/ TRACT NO.	INST. NO./ PARCEL MAP BOOK PAGES	DATE FILED	AMB
MAP/WAIVER $	ON BY	DATE ISSUED	SURVEYOR
FILING FEE $	ON BY		
DOC. REC. $ FEE $	ON BY	SUBDIVIDER	
SUPP'L TAX BOND REQ. REC'D.	AMOUNT-$ BOND-$ CASH, ETC.-$	SUBDIVISION OF	
SUPP'L TAX BOND REQ. REC'D.	AMOUNT-$ BOND-$ CASH, ETC.-$		
		AMOUNT	DATE
TENTATIVE MAP REC'D.	TENTATIVE APPROVAL EXPIRES	TENTATIVE APPROVED UNITS	MONUMENT AGREEMENT REC'D. MR. NO. MIN. EST.
PRINTS REC'D.	TRACINGS/ WAIVER REC'D.		MONUMENT INSP. OK/NG ON TIE NOTES IN CEFB
SUBDIVISIONS		ASSIGNED TO	NTFD. TO ENGR. REC'D.
ROAD			NTFD. TO ENGR. REC'D.
REG. PLAN.		HELD PENDING	NTFD. TO ENGR. REC'D.
CITY			NTFD. TO ENGR. REC'D.
SUB SEWERS			NTFD. TO ENGR. REC'D.
DRAINAGE		TAX BOND	TAX BOND REQ. AMOUNT-$
WATER ORD		FILING FEES	REC'D. BOND $ CASH, ETC.-$
GEOLOGY		PROCESSING FEES	TAX CLEARANCE REC'D. ORAL
GRADING		DEPT. CLEARANCES	TO CITY REC'D
B & S		MON. INSP.	21.28.040 LTR. REC'D. SB 813 AFF. REC'D.
HEALTH		PU/PE LETTERS	TITLE PRELIMINARY
ASSESSMENT		MINOR CORRECTION	GUARANTEE BY GUARANTEE DATED
P & R-PARKS		TAX CLEARANCE	
FIRE		SB 813 TAX BOND	AMEND DATED
ST. NAMES		CONV., CONDO. ETC.	GUARANTEE ORDERED REC'D. DATED
		SEE REVERSE SIDE	
TRACT NO./PARCEL MAP NO.	LOCATION	INDEX MAP NO.	APP BY B/S C/C OK TO FILE

48-0031 DPW 11/87

FRONT

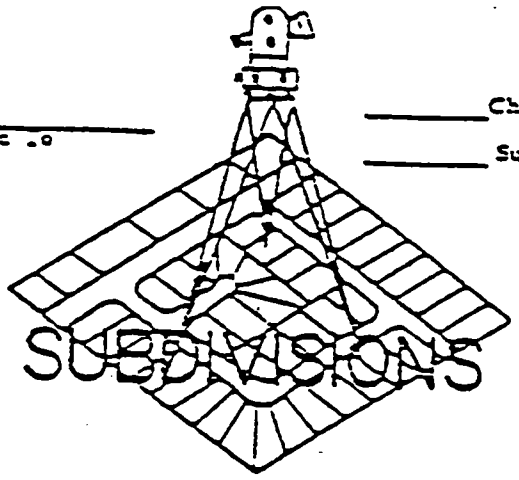
	AMT	DATE	PAID BY	MR
BASE				
V COND				
ESMT				
MON				
TAX CL				
TAX BD				
AB/BDS				
RESUBM				
LDMA				

Owner: _____

Subdivider: _____

BACK

12-16



Assignee _____ Check _____ Submittal _____

COUNTY OF LOS ANGELES
PUBLIC WORKS DEPARTMENT
LAND DEVELOPMENT DIVISION
SUBDIVISION SECTION
CORRECTION LIST

TRACT NO. _____

Engineer/Surveyor _____ Date _____

Address _____ Index _____

City _____ Zip Code _____

Your map has been checked and the necessary corrections, additions, and instructions are circled below. The attached check print(s) and correction list must be returned with the tracing when submitting for recheck. Please indicate any changes or corrections on the attached check print(s) that you have made on the tracings including those asked for by the checker. Place any comments or questions on the check print(s) or correction list. Make the corrections or additions as indicated in red on the attached check print(s).

1. Need Recorder's Fee for the following:
   _____ a. Map filing - $6.00 for first sheet plus ~~$2.00~~ 3.00 for each additional sheet.
   _____ b. Document recording (Drainage letter, etc.) - $3.00 for first single sided page plus $1.00 for each additional single sided page or portion of page.
2. Need processing fees for the following:
   a. Map analysis - $ _____
   b. Tax clearance - $ _____
   c. Tax bond/security - $ _____
   d. Monument inspection - $ _____
   e. Checking easements - $ _____
   f. _____ submittal - $ _____
   g. Verification that map complies with tentative conditions - $ _____
   h. Agreements and/or improvement security/bonds - $ _____/each
   i. LDMA surcharge - $ _____
   j. Other _____ - $ _____
3. Submit drainage acceptance letter if future or private and future streets are being dedicated along with a recording fee as indicated in item 1.b. above or show drainage acceptance note in owner's certificate.
4. Submit the original tracings to this office for review.
5. Trim the tracing to 18" by 26" overall. (Blank 1" margin on all sides.)
6. Ink is not black, opaque, and permanent in nature. (Certificates should be stamped or printed with black, opaque, and permanent ink.)
7. Notary seal is not legible and will not reproduce clearly. Restamp notary seal.
8. Show/correct map scale and/or detail scale.
9. Show north arrow.
10. Show "Sheet _____ of _____ sheet (s)". (Title sheet first.)
11. Show title on all sheets. Tract No. _____ In Unincorporated Territory of the County of Los Angeles, and/or In the City of _____
12. Show/correct subtitle. (Legal description of the property within the distinctive border.)
13. Reference street vacation in the subtitle.
14. Reference offsite easement dedication in the subtitle.
15. Show purpose on each sheet of map below title or subtitle: "For Condominium Purposes", "For Stock Cooperative Purposes", "Division Of Land For Purpose Of Lease Only", or "Division Of Land For Mobilehome Purposes Only".
16. Show distinctive border on front side of tracing inside the boundary of new lots and streets being created. Show distinctive border on details. (Do not obliterate any figures.)
17. Show/correct distinctive border legend on map.
18. Lot and/or unit numbering designation is in error.
19. Show/correct deed, RS, MB, or PMB references for exterior boundaries on the map. (Except where an exterior boundary is abutting a public dedicated street.)
20. Label "Not A Part" where noted on check print.
21. Show the location of any remainder of the last legally created parcel and label as "Remainder Parcel".
22. If units are filed, submit a key map indicating all the units and the order of filing.
23. Show references to adjoining sheets and compare duplicated information on adjoining sheets.
24. Submit a copy of tentative conditions or other document showing date of tentative approval. (Minutes expire _____.) Request an extension of time from Planning prior to expiration of tentative approval.
25. Map does not conform to tentative map and conditions of approval. See condition numbers _____.
26. Submit complete copies of all deeds, field book pages, and other documents/information referenced on the map or needed to interpret information referenced on the map.
27. Show/correct/state method of establishment of all easements, boundary lines, lot lines, and/or corners on the map.
28. Submit hard copy and calculations showing method of establishment of exterior boundary lines and/or easements.
29. Submit a print of the most recent Assessor Map Book page covering this subdivision.
30. Verify survey information as indicated.

31. Submit copy of survey information as indicated on check print.
32. Comply with the conditions of State law for use of the California Coordinate System.
33. Show/correct basis of bearings note.
34. Label found monuments with reference or state, "NO REF.". On "NO REF." monuments, show tag number and if an iron pipe, show depth of monument. If boundary control monument is not tagged, set tag. State depth of referenced monument if different from record.
35. Show/correct type of monuments set. If an iron pipe, show depth at each point or use a depth of monuments note.
36. Monuments must be set and inspected prior to filing or deferred if permitted by State law and local ordinance.
    a. Request an inspection by separate letter addressed to this office, submit tie notes for all centerline monuments set.
    b. If monuments are to be deferred, label them as "_____ to be set" and modify the Surveyor's/Engineer's Certificate accordingly.
37. Submit monument agreement and security to guarantee setting of monuments.

38. Omitted
39. Omitted

40. Show/correct adjoining streets and/or widths and/or names.
41. Show/correct bearings and distances on all lines (arrow when necessary).
42. Show/correct curve data for street centerlines, street sidelines, and property line corner returns.
43. Show/correct lot areas when 0.75 acres or more (both net and gross when appropriate) to the nearest 0.01 acre.
44. Lot areas do not meet present zoning.
45. Show/correct detail.
46. Show city boundaries. (Verify proposed annexation prior to filing.)
47. The following traverses do not close within allowable limits of error. _____
48. Submit mathematical traverses for the following:
    a. Distinctive border c. Block loops e. Lot(s)/revised lot(s) _____
    b. Centerline loops d. Net & part areas f. Any of the above reflecting revised data
49. Verify centerline to sideline distance where noted on check print.
50. The sum of parts does not equal the total where noted on check print.
51. Show/correct Surveyor's/Engineer's Certificate _____; Sign _____; Show LLS or RCE No. _____. (See County Form).
52. Submit a letter from _____ releasing this tract number to _____.
53. Complete/correct the title sheet as to Owner's Certificate and dedications.
54. Verify that offers in Owner's Certificate are either accepted or rejected in City Clerk's Certificate and that easements being offered are delineated on the map sheet.
55. Show slope easement and appropriate ties on the map sheet. Dedicate slope easement in the Owner's Certificate.
56. The title sheet does not agree with the preliminary guarantee of _____ amended to _____ with respect to owners/trustees/beneficiaries/easement holders/interest holders. Need authority for the signatures of _____.
57. Show/correct necessary signature omission notes. State purpose of each easement in the omission note or on the map sheet.
58. Submit public utility/public entity letters for signature omissions to this office addressed to the Board of Supervisors or City Council, as appropriate, or submit the signed statement that State law has been met with respect to public utility/public entity signature omissions.
59. Complete the Section 21.25.040 Form, sign, and return to this office.
60. Show/correct easements, old (if required by local agency) and new, affecting lots and tie to lot lines. If easements are blanket, indeterminate, or within a street being dedicated, so state in omission note.
61. Need preliminary subdivision guarantee.
62. Need revised preliminary subdivision guarantee.
63. Complete/correct the title sheet with respect to signatures, seals, and acknowledgments.
64. Dedicate building restriction rights over the restricted use area in the Owner's Certificate.
65. Show/correct flood hazard note on each sheet of map where there is flood hazard and summary note on title sheet. Dedicate building restriction rights over the flood hazard area in the Owner's Certificate.
66. Show natural drainage courses and flood hazard note.
67. Show/correct street alternate section note on each sheet of map.
68. Show/correct condominium note indicating common lots will provide access and utility easements.
69. Show/correct residential planned development notes.
70. Show/correct City Certificates. (City Engineer, City Council, City Special Assessments, Other)
71. Submit a park dedication fee of $ _____ to the Department of Parks and Recreation.
72. Show easement abandonment/non-abandonment note on the title sheet.
73. Contact the following departments or divisions marked __X__ for clearance requirements. Submit necessary improvement security, agreements, and other documents.

_____	Road	_____	Parks and Recreation Department (Parks)
_____	Regional Planning Department	_____	Fire Department (Access)
_____	Subdivision Sewers Unit	_____	Grading Section (Soils engineer's report)
_____	Flood Plain Management Section	_____	Department of Health Services
_____	Water Ordinance Unit	_____	Flood Control
_____	Geology Section	_____	Assessment Section

74. Need notification from City that conditions of tentative approval being handled by them have been complied with.
75. Need tax clearance.

76. Need tax bond, or other security, for $ _____.
77. Submit agreements and improvement security for standpipe system, driveway paving, sprinkler system, access roads, _____ purposes. Submit an estimate from a licensed contractor for the improvements indicated so that an improvement security amount can be determined.
78. Submit _____ print(s) of the revised map and title sheet. [Road, RP, Geology, Flood Control, SubSewers, Flood Plain Management, Fire, Parks & Recreation (Parks), File, Check, Monument Inspection, Tax, City, Other]
79. Comply with the Los Angeles County Condominium Conversion Ordinance requirements.
80. Submit a notarized affidavit, signed by all owners of record at the time of filing of the map with the County Recorder, stating that the proposed condominium building has not been constructed or that the building has not been and will not be occupied or rented until after the filing of the map with the County Recorder.
81. Submit a private park agreement and improvement security if approved by the Department of Parks and Recreation and the Department of Regional Planning. Faithful performance amount is $ _____. Labor and materials amount is $ _____.
82. A preliminary title report/guarantee is needed covering the required separate instrument dedications if this office is to prepare the necessary documents. The account for this preliminary title report/guarantee should remain open until the necessary documents are recorded.
83. The documents covering the required declarations have not been received by this office.
84. The documents will be prepared when an OK is received from the appropriate Department and/or Division.
85. Send a copy of the revised final map (including title sheet) to your title company.
86. Make the corrections noted in your preliminary guarantee.
87. Submit a notarized affidavit signed by all owners of record, stating that there has been no new construction completed or any change in fee ownership on or after _____.

_____

_____

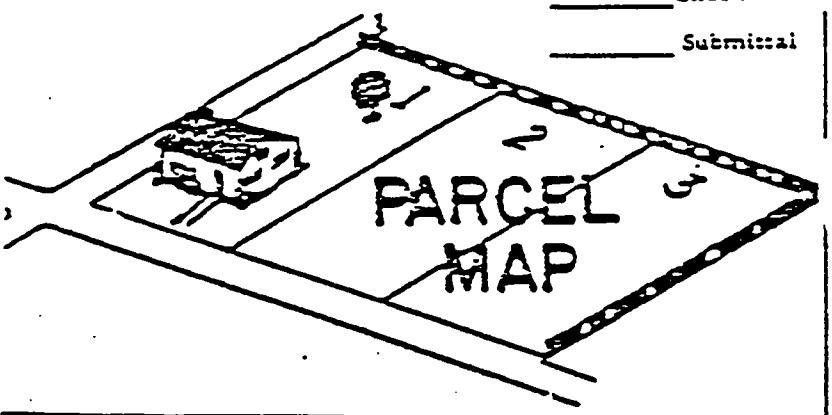
_____

_____

_____

_____

_____



Assigned To

_____ Check

_____ Submittal

COUNTY OF LOS ANGELES
PUBLIC WORKS DEPARTMENT
LAND DEVELOPMENT DIVISION
SUBDIVISION SECTION
CORRECTION LIST

PARCEL MAP NO. _____

Engineer/Surveyor _____ Date _____

Address _____ Index _____

City _____ Zip Code _____

Your map has been checked and the necessary corrections, additions, and instructions are circled below. The attached check print(s) and correction list must be returned with the tracing when submitting for recheck. Please indicate any changes or corrections on the attached check print(s) that you have made on the tracings including those asked for by the checker. Place any comments or questions on the check print(s) or correction list. Make the corrections or additions as indicated in red on the attached check print(s).

1. Need Recorder's Fee for the following:
   _____ a. Map filing - $6.00 for first sheet plus $~~3.00~~ for each additional sheet.
   _____ b. Document recording (Drainage letter, etc.) - $8.00 for first single sided page plus $1.00 for each additional single sided page or portion of page.
2. Need processing fees for the following:
   a. Map analysis - $ _____
   b. Tax clearance - $ _____
   c. Tax bond/security - $ _____
   d. Monument inspection - $ _____
   e. Checking easements - $ _____
   f. _____ submittal - $ _____
   g. Verification that map complies with tentative conditions - $ _____
   h. Agreements and/or improvement security/bonds - $ _____/each
   i. LDMA surcharge - $ _____
   j. Other _____ - $ _____
3. Submit drainage acceptance letter if future or private and future streets are being dedicated along with a recording fee as indicated in item 1.b. above or show drainage acceptance note in owner's certificate.
4. Submit the original tracings to this office for review.
5. Trim the tracing to 18" by 26" overall. (Blank 1" margin on all sides.)
6. Ink is not black, opaque, and permanent in nature. (Certificates should be stamped or printed with black, opaque, and permanent ink.)
7. Notary seal is not legible and will not reproduce clearly. Restamp notary seal.
8. Show/correct map scale and/or detail scale.
9. Show north arrow.
10. Show "Sheet _____ of _____ sheet (s)". (Title sheet first.)
11. Show title on all sheets. Parcel Map No. _____ In Unincorporated territory of the County of Los Angeles, and/or In the City of _____
12. Show/correct subtitle. (Legal description of the property within the distinctive border.)
13. Reference street vacation in the subtitle.
14. Reference offsite easement dedication in the subtitle.
15. Show purpose on each sheet of map below title or subtitle: "For Condominium Purposes", "For Stock Cooperative Purposes", "Division Of Land For Purpose Of Lease Only", or "Division Of Land For Mobilehome Purposes Only".
16. Show distinctive border on front side of tracing inside the boundary of new parcels and streets being created. Show distinctive border on details. (Do not obliterate any figures.)
17. Show/correct distinctive border legend on map.
18. Parcel and/or unit numbering designation is in error.
19. Show/correct deed, RS, MB, or PMB references for exterior boundaries on the map. (Except where an exterior boundary is abutting a public dedicated street.)
20. Label "Not A Part" where noted on check print.
21. Show the location of any remainder of the last legally created parcel and label as "Remainder Parcel".
22. If units are filed, submit a key map indicating all the units and the order of filing.
23. Show references to adjoining sheets and compare duplicated information on adjoining sheets.
24. Submit a copy of tentative conditions or other document showing date of tentative approval. (Minutes expire _____.) Request an extension of time from Planning prior to expiration of tentative approval.
25. Map does not conform to tentative map and conditions of approval. See condition numbers _____.
26. Submit complete copies of all deeds, field book pages, and other documents/information referenced on the map or needed to interpret information referenced on the map.
27. Show/correct/state method of establishment of all easements, boundary lines, lot lines, and/or corners on the map.
28. Submit hard copy and calculations showing method of establishment of exterior boundary lines and/or easements.

29. Submit a print of the most recent Assessor Map Book page covering this subdivision.
30. Verify survey information as indicated.
31. Submit copy of survey information as indicated on check print.

FOR FIELD SURVEYED MAPS:

32. Comply with the conditions of State law for use of the California Coordinate System.
33. Show/correct basis of bearings note.
34. Label found monuments with reference or state, "NO REF.". On "NO REF." monuments, show tag number and if an iron pipe, show depth of monument. If boundary control monument is not tagged, set tag. State depth of referenced monument if different from record.
35. Show/correct type of monuments set. If an iron pipe, show depth at each point or use a depth of monuments note.
36. Monuments must be set and inspected prior to filing or deferred if permitted by State law and local ordinance.
    a. Request an inspection by separate letter addressed to this office, submit tie notes for all centerline monuments set.
    b. If monuments are to be deferred, label them as "_____ to be set" and modify the Surveyor's/Engineer's Certificate accordingly.
37. Submit monument agreement and security to guarantee setting of monuments.

FOR COMPILED MAPS:

38. Show/correct record data note.
39. Comply with Section 66448 of the Subdivision Map Act by showing two found monuments.

40. Show/correct adjoining streets and/or widths and/or names.
41. Show/correct bearings and distances on all lines (arrow when necessary).
42. Show/correct curve data for street centerlines, street sidelines, and property line corner returns.
43. Show/correct parcel areas when 5.75 acres or more (both net and gross when appropriate) to the nearest 0.01 acre.
44. Parcel areas do not meet present zoning.
45. Show/correct detail.
46. Show city boundaries. (Verify proposed annexation prior to filing.)
47. The following traverses do not close within allowable limits of error. _____
48. Submit mathematical traverses for the following:
    a. Distinctive border
    b. Centerline loops
    c. Block loops
    d. Net & part areas
    e. Parcel(s)/revised parcel(s) _____
    f. Any of the above reflecting revised data
49. Verify centerline to sideline distance where noted on check print.
50. The sum of parts does not equal the total where noted on check print.
51. Show/correct Surveyor's/Engineer's Certificate _____; Sign _____; Show LS or RCE No. _____ (See County Form).
52. Show/correct record owner(s) note.

IF OWNER'S CERTIFICATE REQUIRED:

53. Complete/correct the title sheet as to Owner's Certificate and declarations.
54. Verify that offers in Owner's Certificate are either accepted or rejected in City Clerk's Certificate and that easements being offered are delineated on the map sheet.
55. Show slope easement and appropriate ties on the map sheet. Dedicate slope easement in the Owner's Certificate.
56. The title sheet does not agree with the preliminary guarantee of _____ amended to _____ with respect to owners/trustees/beneficiaries/easement holders/interest holders. Need authority for the signatures of _____.
57. Show/correct necessary signature omission notes. State purpose of each easement in the omission note or on the map sheet.
58. Submit public utility/public entity letters for signature omissions to this office addressed to the Board of Supervisors or City Council, as appropriate, or submit the signed statement that State law has been met with respect to public utility/public entity signature omissions.
59. Complete the Section 21.25.040 Form, sign, and return to this office.
60. Show/correct easements, etc (if required by local agency) and new, affecting parcels and tie to parcel lines. If easements are blanket, indeterminate, or within a street being dedicated, so state in omission note.
61. Need preliminary subdivision guarantee.
62. Need revised preliminary subdivision guarantee.
63. Complete/correct the title sheet with respect to signatures, seals, and acknowledgments.
64. Dedicate building restriction rights over the restricted use area in the Owner's Certificate.
65. Show/correct flood hazard note on each sheet of map where there is flood hazard and summary note on title sheet. Dedicate building restriction rights over the flood hazard area in the Owner's Certificate.
66. Show natural drainage courses and flood hazard note.
67. Show/correct street alternate section note on each sheet of map.
68. Show/correct condominium note indicating common parcels will provide access and utility easements.
69. Show/correct residential planned development notes.
70. Show/correct City Certificates. (City Engineer, City Council, City Special Assessments, Other)
71. Complete/correct the title sheet as to Subdivider's Certificate.
72. Show easement abandonment/non-abandonment note on the title sheet.
73. Contact the following departments or divisions marked __X__ for clearance requirements. Submit necessary improvement security, agreements, and other documents.

_____ Road	_____ Parks and Recreation Department (Parks)
_____ Regional Planning Department	_____ Fire Department (Access)
_____ Subdivision Sewers Unit	_____ Grading Section (Soils engineer's report)
_____ Flood Plain Management Section	_____ Department of Health Services
_____ Water Ordinance Unit	_____ Flood Control
_____ Geology Section	_____ Assessment Section

74. Need notification from City that conditions of tentative approval being handled by them have been complied with.
75. Need tax clearance.

76. Need tax bond, or other security, for $_____.
77. Submit agreements and improvement security for standpipe system, driveway paving, sprinkler system, access roads, _____ purposes. Submit an estimate from a licensed contractor for the improvements indicated so that an improvement security amount can be determined.
78. Submit _____ print(s) of the revised map and title sheet. [Road, RP, Geology, Flood Control, SanSewers, Flood Plain Management, Fire, Parks & Recreation (Parks), File, Check, Monument Inspection, Tax, City, Other]
79. Comply with the Los Angeles County Condominium Conversion Ordinance requirements.
80. Submit a notarized affidavit, signed by all owners of record at the time of filing of the map with the County Recorder, stating that the proposed condominium building has not been constructed or that the building has not been and will not be occupied or rented until after the filing of the map with the County Recorder.
81. Submit special assessments clearance letter from the City to this office.
82. A preliminary title report/guarantee is needed covering the required separate instrument dedications if this office is to prepare the necessary documents. The account for this preliminary title report/guarantee should remain open until the necessary documents are received.
83. The documents covering the required dedications have not been received by this office.
84. The documents will be prepared when an OK is received from the appropriate Department and/or Division.
85. Send a copy of the revised final map (including title sheet) to your title company.
86. Make the corrections noted in your preliminary guarantee.
87. Submit a notarized affidavit signed by all owners of record, stating that there has been no new construction completed or any change in fee ownership on or after _____.

COUNTY OF LOS ANGELES
OFFICE OF ASSESSOR
500 W. TEMPLE STREET
LOS ANGELES, CA 90012-2770

(213) 974-3417

INSTRUCTIONS FOR DECLARATION RE: SECURITY FOR PAYMENT OF TAXES AND/OR SPECIAL ASSESSMENTS

IMPORTANT NOTICE:

California law requires the posting of security for payment of taxes and special assessments prior to recording a final map on subdivisions. Section 75 et sequentes of the Revenue and Taxation Code provide for supplemental assessments due to changes in ownership and/or completion of new construction after the lien date. These liens attach as of the date of change in ownership or completion of new construction. Section 66493 of the Government Code provides that whenever any part of the subdivision is subject to a lien for taxes or special assessments collected as taxes which are not yet payable, the final map shall not be recorded until the owner or subdivider executes and files with the Clerk of the Board of Supervisors of the County wherein any part of the subdivision is located, security conditioned, upon the payment of all State, County, municipal, and local taxes and the current installment of principal and interest of all special assessments collected as taxes, which at the time the final map is recorded are a lien against the property, but which are not yet payable.

If the land being subdivided is a portion of a larger parcel shown on the last preceding tax roll as a unit, the security for payment of taxes need be only for such sum as may be determined by the County to be sufficient to pay the current and delinquent taxes including penalties and costs on the land being subdivided. Separate assessor's parcels will be given to the portion not being submitted, as well as the parcel or parcels within the subdivision.

The Los Angeles County Assessor's Department requires that a Bond Estimate Declaration be filed on <u>all subdivisions</u> prior to recording the final map. The amount of the required security cannot be determined until the Office of Assessor determines the full value of the real property subject to the bonding requirement. The Office of Assessor needs current information in order to ensure that the value is correct and in accordance with the requirements of the Revenue and Taxation Code. If a declaration does not accompany your request, a demand for the declaration will be mailed to the applicant/assessee. <u>Any delay caused by an untimely submission of the declaration may result in additional delays in your ability to record your final map.</u>

12-23

INSTRUCTIONS FOR DECLARATION RE: SECURITY
FOR PAYMENT OF TAXES AND/OR SPECIAL ASSESSMENT

INSTRUCTIONS:

1. (a) If the subdivision properties were acquired at different times, you may enter "see attached" and staple copies of escrow instructions to the declaration.

   (b) If more than one tax bill is applicable, sum the market values and enter the sum of the total amount of taxes and/or special assessments of all tax bills in the spaces provided.

   (c) If the legal description cannot be entered in the space provided, you may enter "see attached" and staple a separate legal description to the declaration.

   (d) The Revenue and Taxation Code requires that all property be reappraised whenever there is a change of ownership or new construction is completed, absent an exclusion to the contrary. In order to properly process your bond estimate, you must <u>fully</u> provide all information as requested.

2. The declaration is to be signed under penalty of perjury by the owner of record, an authorized agent or corporate officer.

3. A new declaration is required for each year or fraction thereof for which a new estimate is made.

4. <u>We will not process an incomplete declaration.</u>

<u>NOTE</u>

After receipt from the Department of Public Works, <u>non-priority</u> estimates are processed in about fifteen working (15) days.

After receipt from the Department of Public Works, it will take the Office of Assessor approximately ten (10) working days to process the Bond Estimate provided you have obtained "priority status" from the Department of Public Works. Timely submission of your Bond Request is, therefore, very important. If you want to record early, request your estimate early.

12-24

COUNTY OF LOS ANGELES • OFFICE OF ASSESSOR
500 WEST TEMPLE STREET, LOS ANGELES, CALIFORNIA 90012-2770

BOND ESTIMATE DECLARATION

NOTICE: THIS DECLARATION IS REQUIRED BY THE COUNTY ASSESSOR IN ORDER TO PROCEED WITH THE REQUIRED BOND ESTIMATE

DECLARANT (MUST BE OWNER, AUTHORIZED AGENT, OR CORPORATE OFFICER)	DATE
BUSINESS ADDRESS	
CITY	STATE / ZIP CODE

ASSESSOR'S IDENTIFICATION NUMBER

MAPBOOK	PAGE	PARCEL

TRACT NUMBER

DATE OF ACQUISITION *SEE INSTRUCTIONS 1 (A)*

DECLARATION MUST BE FILLED OUT COMPLETELY

ATTACHED IS A COPY OF THE LATEST TAX BILL(S) ON THE PROPERTY SUBJECT TO THIS DECLARATION WHICH INDICATES THE FOLLOWING:

MARKET VALUE		TOTAL TAXES AND SPECIAL ASSESSMENTS *SEE INSTRUCTIONS 1 (B)*

LOCATION OF PROPERTY (LEGAL DESCRIPTION OR SITUS ADDRESS) *SEE INSTRUCTIONS 1 (C)*	CITY	STATE	ZIP CODE

CURRENT OWNER AND ASSESSEE

PURCHASE PRICE INFORMATION

CASH DOWN			AMOUNT
1st TRUST DEED	INTEREST RATE	TERM	AMOUNT
2nd TRUST DEED	INTEREST RATE	TERM	AMOUNT
OTHER TERMS (EXPLAIN)			AMOUNT
TOTAL PURCHASE PRICE			AMOUNT

NEW CONSTRUCTION SUBSEQUENT TO MARCH 1 OF PAST CALENDER YEAR (CHECK ONE) *SEE INSTRUCTIONS 1 (D)*

☐ NO NEW CONSTRUCTION/BUILDING PERMITS ☐ NEW CONSTRUCTION-BUILDING PERMITS ISSUED (DESCRIBE BELOW)

☐ GRADING PERMITS – DATE WORK STARTED _____ DATE WORK COMPLETED _____

☐ STRUCTURE PERMITS – DATE WORK STARTED _____ DATE WORK COMPLETED _____

SUBJECT PROPERTIES TO BE SUBDIVIDED TO CREATE (CHECK ONE) ☐ COMMERCIAL INDUSTRIAL TRACT

☐ NEW CONDOMINIUMS ☐ CONVERSION TO CONDOMINIUMS ☐ RESIDENTIAL TRACT

REQUEST FOR EXCLUSION PURSUANT TO SECTION 75.12 CALIFORNIA REVENUE AND TAXATION CODE (CHECK ONE IF APPLICABLE)

☐ NOTIFICATION HAS BEEN GIVEN TO THE ASSESSOR THAT NEW CONSTRUCTION IS FOR SALE PURPOSES ONLY

☐ ATTACHED IS COMPLETED NOTIFICATION AND REQUEST FOR EXCLUSION

I AM A RESIDENT OF THE UNITED STATES AND OVER THE AGE OF EIGHTEEN (18).
I UNDERSTAND THAT THIS DECLARATION IS TO BE USED FOR THE PURPOSE OF DETERMINING THE AMOUNT OF SECURITY TO BE REQUIRED (GOVERNMENT CODE 66493) FOR THE PAYMENT OF TAXES OR SPECIAL ASSESSMENTS COLLECTED AS TAXES WHICH ARE NOW A LIEN ON THE ABOVE DESCRIBED PROPERTY, BUT ARE NOT YET PAYABLE.

I DECLARE UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

DATE EXECUTED	CITY OR COUNTY	
		, CALIFORNIA

SIGNATURE OF DECLARANT		TELEPHONE NUMBER (8:00 A.M. - 5:00 P.M.)
	12-25	

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

To: Engineers and Surveyors Engaged in Subdivision activities

Subject: TAX CLEARANCE AND TAX BOND ESTIMATE WRITE-UPS

In order to reduce the processing time for tax clearance and tax bond estimate write-ups by the Department of Public Works, an optional procedure has been implemented. The procedure entails each subdivider submitting copies of the tax bills, or other documents issued by the County, covering the proposed subdivision for the last tax year. In addition, the subdivider needs to submit from his title company a signed document showing the Assessor's map book number, page number, parcel number tax code, brief legal description, and tax parcel area in square feet for the last five tax years. This information must be listed separately by tax year. Attached is a form showing the information needed. This procedure is optional with each subdivider. However, maps on which this information is submitted will received priority processing by the Department.

Attachment.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

TAX CLEARANCE INFORMATION

[ ] COUNTY OF L.A. [ ] CONDOMINIUM

[ ] CITY OF _____ TENTATIVE TRACT/PM NO. _____

Subdivider's Name | Address | Phone

Engineer | Number of Lots

The land included in this subdivision is described in the County Assessor's Books as follows:

Tax Year		TAX	Assessor Map			Township-Range or	LOCATION				AMB PCL.
From	To	Code	Book	Page	PCL.	Current TR./or PM.	BLK	LOT	SEC	QTR	AREA IN SQ. FT.

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM: DRAINAGE AND GRADING SECTION

REQUEST FOR ADDITIONAL DRAINAGE AND GRADING INFORMATION FOR SUBDIVISION MAP CLEARANCE

TRACT or PARCEL MAP No.:_____

MAP DATED _____

LOCATION: _____

We have received a copy of the final subdivision map for the above subdivision to review along with a receipt that the verification deposit has been paid. We cannot clear the final map at this time because it does not contain the required drainage and grading conditions of approval noted below:

_____ 1. The Grading Plan must be approved.

_____ 2. The Storm Drain Plans must be approved.

_____ 3. The Hydrology Study must be approved.

_____ 4. Flood Hazard Areas are not delineated on the Map.

_____ 5. Flood Hazard Waiver has not been submitted and/or approved.

_____ 6. Deed restriction is required.

_____ 7. Special Agreement is required.

_____ 8. Storm Drain Bonds must be submitted.

_____ 9. Wall/Fence Construction Bonds must be submitted.

_____ 10. Storm Drain Easements must be properly shown on the map.

_____ 11. An additional deposit of $ _____ is required to cover the completion of the clearance.

Reviewed by _____

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM: DRAINAGE AND GRADING SECTION

SUBDIVISION MAP CLEARANCE FOR DRAINAGE AND GRADING

FINAL TRACT/PARCEL MAP NO._____

MAP DATED _____

All drainage and grading conditions required for the filing of this (Tract) (Parcel Map) have been met satisfactorily.

Attachments:

( ) Deed Restriction; Receipt No._____ Date _____

Improvement Bonds:

( ) Special Agreement $ _____

( ) Storm Drain $ _____

( ) Wall $ _____

( ) Fence $ _____

Storm Drain Easements:

( ) None Required

( ) Approved Per Map Dated _____

Flood Hazard Noted:

( ) Approved Per Map Dated _____

( ) Approved Per Waiver with Plat Dated _____

Verification Job No. _____ for drainage may now be closed out.

No. Of Hours Used _____

Cleared By _____

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
ROAD UNIT FILE INDEX

FINAL SECTION TRACT/PARCEL MAP _____CLEARANCE

1. Tentative Tract No._____ Approval Expires _____
2. Improvements [ ] Constructed [ ] Guaranteed [ ] Not Required
3. Improvement Plans [ ] Regular [ ] Sketch [ ] Other

   a. Approved Date _____ Plan Nos. _____
   b. Unapproved

      1. Plan Completion Guaranteed by (Date)_____

         By _____ _____
         Engineer Developer
         Approved by _____ Date_____ To Suspense [ ]

      2. Approved for Bond Estimate by _____Date _____

4. Bond Estimate Approved by _____Date _____

5. Letters Required: _____

6. Bond, Traffic Signal, B&T, etc. Information needed in order to clear map: Needed [ ] Received [ ]

   Others _____

   Requested from _____Date _____

7. Clearance Memos to LDMA Section — Required

   a. Drainage easement [ ]
   b. Slope easement [ ]
   c. Prior easements in R\W to be checked by Subdivision Mapping Section [ ]
   d. Private streets [ ]
   e. Future streets [ ]
   f. Private and future streets [ ]
   g. Abandonment [ ]
   h. Conditional Clearance [ ]

   Sent Date _____

8. Final Map Date _____ 9. Cleared by _____Date _____

10. Subdivision Recorded: Date _____

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM: ROAD SEWER AND WATER SECTION

REQUEST FOR ADDITIONAL ROAD INFORMATION FOR SUBDIVISION MAP CLEARANCE

TRACT or PARCEL MAP No. _____

MAP DATED _____

LOCATION: _____

We have received a copy of the final subdivision map for the above subdivision to review along with a receipt that the verification deposit has been paid. We cannot clear the final map at this time because it does not contain the required road conditions of approval noted below:

_____ 1. Road Plans must be approved.

_____ 2. Road Drainage easements are not shown properly.

_____ 3. Road Slope easements are not shown properly.

_____ 4. Private Streets are not shown properly.

_____ 5. Future Streets are not shown properly.

_____ 6. Private and Future Streets are not shown properly.

_____ 7. Existing Road Right-of-Way to be abandoned is not shown properly.

_____ 8. Road Drainage Acceptance letters have not been received.

_____ 9. Road Improvement Bonds and Agreements have not been received.

_____ 10. Street Tree Planting Bonds and Agreements have not been received.

_____ 11. Bridge and Main Thoroughfare Assessment Requirements have not been met.

_____ 12. An additional deposit of $ _____ is required to cover the completion of the clearance.

Reviewed by _____

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM:ROAD, SEWER AND WATER SECTION

SUBDIVISION MAP CLEARANCE FOR ROAD REQUIREMENTS

FINAL TRACT/PARCEL MAP NO. _____

MAP DATED _____

All road design conditions required for filing of this Tract/Parcel Map have been met satisfactorily. This includes the following checked items:

[ ] ROAD DRAINAGE EASEMENTS
[ ] ROAD DRAINAGE EASEMENTS ABANDONED
[ ] ROAD SLOPE EASEMENTS
[ ] ROAD SLOPE EASEMENTS ABANDONED
[ ] PRIOR EASEMENT IN R/W TO BE CHECKED BY SUBDIVISION SECTION
[ ] PRIVATE STREETS
[ ] FUTURE STREETS
[ ] PRIVATE AND FUTURE STREETS
[ ] EXISTING ROAD RIGHT-OF-WAY ABANDONED
[ ] ROAD DRAINAGE ACCEPTANCE LETTERS ATTACHED

The clearance is based on the following conditions:
IMPROVEMENTS STATUS:

[ ] NONE REQUIRED
[ ] COMPLETED BY PERMITS
[ ] GUARANTEED BE BONDS AND AGREEMENTS

In your files there should be security for Faithful Performance and Labor and Materials to guarantee the completion of the following items:

	Road Improvements Dollars	Street Trees Dollars
Faithful Performance Bond Amount		
Labor and Materials Bond Amount		

THIS CLEARANCE IS VOID AFTER THE SUBDIVISION EXPIRATION DATE

The verification Job No._____for road plans may now be closed.

The number of hours used were_____.

CLEARED BY _____

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM: ROAD, SEWER AND WATER SECTION

REQUEST FOR ADDITIONAL SEWER INFORMATION FOR SUBDIVISION MAP CLEARANCE

TRACT or PARCEL MAP No.: _____

MAP DATED _____

LOCATION: _____

We have received a copy of the final subdivision map for the above subdivision to review along with a receipt that the verification deposit has been paid. We cannot clear the final map at this time because it does not contain the required sewer conditions of approval noted below:

_____ 1. Sewer Plans must be approved.

_____ 2. Sewer Easements are not properly shown.

_____ 3. Sewer Improvement Bonds and Agreements have not been received.

_____ 4. An additional deposit of $ _____ is required to cover the completion of the clearance.

Reviewed by _____

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM: ROAD, SEWER AND WATER SECTION

SUBDIVISION MAP CLEARANCE FOR SEWER SYSTEM

PRIVATE CONTRACT NO. _____

FINAL TRACT/PARCEL MAP NO. _____

MAP DATED _____

All sewer conditions required for filing of this Tract/Parcel Map have been met satisfactorily.

In your files there should be a security for Faithful Performance and Labor and Materials in the respective amounts of $ _____ and of $ _____, to guarantee the installation of the sanitary sewer improvements.

Verification Job No. _____ for sewers may now be closed.

The number of hours used were _____.

Cleared By _____

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM: ROAD, SEWER AND WATER SECTION

REQUEST FOR ADDITIONAL WATER SYSTEM INFORMATION FOR SUBDIVISION MAP CLEARANCE

TRACT or PARCEL MAP No. _____

MAP DATED _____

LOCATION: _____

We have received a copy of the final subdivision map for the above subdivision to review along with a receipt that the verification deposit has been paid. We cannot clear the final map at this time because it does not contain the required water system conditions of approval noted below:

_____ 1. Water System plans must be approved.

_____ 2. Water System easements are not properly shown.

_____ 3. Fire Flow Tests Results have not been received.

_____ 4. Water System Improvement Bonds and Agreements have not been received.

_____ 5. Water Purveyor must approve the Water System Plans.

_____ 6. Water Purveyor does not have a valid Registration Certificate.

_____ 7. An additional deposit of $ _____ is required to cover the completion of the clearance.

Reviewed by _____

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: LAND DEVELOPMENT MANAGEMENT AGENCY
DEVELOPMENT MANAGEMENT SECTION

FROM: ROAD, SEWER AND WATER SECTION

SUBDIVISION MAP CLEARANCE OF WATER SUPPLY SYSTEM

PRIVATE CONTRACT NO. _____

FINAL TRACT/PARCEL MAP NO. _____

MAP DATED _____

All Water Supply conditions required for filing of this Tract/Parcel Map have been met satisfactorily, and/or a security bond produced and agreements executed.

In your files there should be a security for Faithful Performance and Labor and Materials in the amounts of $ _____ and $ _____, respectively, to guarantee the installation of the Water System improvements.

The verification Job No. _____ for water code enforcement may now be closed. The number of hours used were _____.

Cleared By _____

PROCEDURES TO OBTAIN CLEARANCE OF A FINAL MAP FOR RECORDATION FROM MATERIALS ENGINEERING DIVISION

The following items must be submitted together in a package to the Materials Engineering Division via the Land Development Processing Center on the 5th Floor. Separate submittal of the items will delay processing and clearance approval.

1. (a) One (1) copy of the final map. It must be logged in (stamped) by the Processing Center.
   or
   (b) Three (3) copies of the final map, if Geotechnical Restricted Use Areas are shown on the final map. Maps must be logged in at the Processing Center. In this case, each sheet of all three sets of the final map must be signed by the private Consultant Geologist and Soils Engineer, by manual, original (wet) signatures and indicate their approval of the boundaries of the Restricted Use Areas as shown.

2. If no Restricted Use Areas exist [Situation 1 (a) above] then a letter from the Consultant Geologist and Soils Engineer must be submitted, which states that there are no Restricted Use Areas in the subdivision. One copy of the letter is sufficient.

3. One copy of the receipt showing that the verification fees (for Geology Clearance) have been paid.

4. One copy of the Geologic Review Sheet, approving the grading plan for the subdivision. It's your responsibility to provide this. The Geology and Soils Section cannot provide this for you. A copy can be obtained from the file room. Inquire at the Processing Center.

5. One copy of the Bond Agreement Form showing the amount of Geologic Corrective Bonds required for this project. NOTE: Not all projects require Geologic Corrective Bonds. These bonds are required (when grading has not been completed) for corrective geologic grading such as buttresses or stabilization fills, deep removals, special or extensive deterring systems, etc. Bond Amounts: $4.00/cu yard for faithful performance + $2.00/yd for labor and materials. The consulting civil engineer determines the amounts.

6. All conditions of approval required for the subdivision must be met.

CHECK LIST

___ 1. (a) 1 copy of map (No Restricted Use Areas)
   or
___ (b) 3 signed copies of map (Restricted Use Areas shown).

___ 2. Restricted Use Area Letter [for above, 1.(a), only].

___ 3. Receipt for fees.

___ 4. Geologic Review Sheet approving grading plan.

___ 5. Bond agreement form.

DEPARTMENT OF PUBLIC WORKS
MATERIALS ENGINEERING DIVISION

Date: _____
Sheet ___ of ___

TO: Development Management Section
Land Development Division

FROM: Materials Engineering Division

SUBJECT: GEOTECHNICAL REVIEW OF _____ FINAL MAP _____ PLAT MAP (WAIVER) WITH PROCESSING CENTER DATE _____

PARCEL OR TRACT MAP NO.: _____ Unit of Tract: _____ (FILE under this Tract)

LOCATION _____

____ Unincorporated County
Job # LXA _____
____ Contract City
Job # _____

____ This map is approved for filing.

____ Restricted Use Areas are delineated on the Final Map, approved by the consultant by manual signature.

____ Corrective Geologic Bonds are required in the amount of $ _____

_____

_____

___ The following geotechnical reports were reviewed for this subdivision.

1. Report(s) dated _____

   Prepared by (C.E.G.) _____ Firm _____

2. Report(s) dated _____

   Prepared by (P.E.) _____ Firm _____

____ This map has not met the requirements for filing for the following reasons:

____ 1. A letter from the consultants regarding Restricted Use Areas has not been submitted. Include a geotechnical map, which delineates Restricted Use Areas.

____ 2. Restricted Use Areas are not delineated on the Final Map.

____ 3. Restricted Use Areas shown on map have not been approved by the consultant. Each sheet, of three sets, must be manually signed (original signatures - not reproduced) and dated.

____ 4. Approved Grading Plan is required.

____ 5. Geologic Corrective Bonds have not been submitted.

____ 6. A fee of $ _____ is required to initiate processing of the geotechnical review.

____ 7. Additional fee of $ _____ is required for completion of clearance.

____ 8. See attached sheet 2 of 2 for additional requirements.

by _____
Geotechnical Reviewer

G1:FM
2/8/93
Form No. 4

DEPARTMENT OF PUBLIC WORKS
MATERIALS ENGINEERING DIVISION

Date: _____
Sheet ___ of ___

(Cont.) Prior to approval for Recordation
___Final Map ___Plat Map (waiver) No. _____
Processing Center Date _____

___9. Minor Land Subdivision: Submit: _____ Grant of Waiver and Certificate of Compliance, (provided by the Department of Regional Planning), ____ required Separate Instrument with "dedication map" showing Restricted Use Areas (prepared by the Land Development Division) and ___ Plat Map (prepared by the Engineer) for review and completed the following concurrently:

___a) Provide ___ copies of both the Engineer's Plat Map and corresponding "dedication map" which delineate the Restricted Use Area and have all sheets manually signed by the geotechnical consultants and dated (for recordation with the Grant of Waiver and/or Separate Instrument documents). The geotechnical engineer's signature must also include stamp or seal and expiration date.

___b) Indicate as a "Geotechnical Note", on the Grant of Waiver and Certificate of Compliance and Separate Instrument documents, the subdivision parcel numbers containing Restricted Use Areas.

___c) Geotechnical notes, required as a condition of tentative approval or required below (9-f), shall be shown on the above Item 9-a "dedication map" and Engineer's Plat Map, and Separate Instrument and Grant of Waiver documents. All notes shall be designated "Geotechnical Notes".

___d) The required Engineer's Plat Map and "dedication map" must show boundaries of parcels relative to Restricted Use Areas to scale.

___e) Add the following "Geotechnical Note(s)" as instructed in above Item 9-c. ___

_____

_____

___f) Submit 3 copies of Separate Instrument documents for dedication of the right to restrict the erection of buildings or other structure in the delineated Restricted Use Areas for recordation. Attach both Engineer's Plat Map and "dedication map" with "Geotechnical Notes", as described in the above Item 9 a-3 for recordation.

___g) Submit 3 copies of the Grant Waiver document with signed Engineer's Plat Map and "dedication map" and "Geotechnical Notes" as indicated in above items 9 a-3 for recordation.

___h) Other _____

_____

_____

___10. Provide and coordinate all of the above checked items and submit at one time for review.

_____
Geotechnical Reviewer

DP:jas
2/8/93 (Form 4 supple.)
ME1/med

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE:

July 29, 1991

TO: ALL CONCERNED PRIVATE ENGINEERS AND LAND DEVELOPMENT

RECORDATION OF FINAL MAPS WITHOUT FINAL APPROVED PLANS

The Department of Public Works policy requires that all improvement plans be approved prior to filing (recordation) of the final Tract or Parcel Map. However, at times, a developer may desire to expedite the filing of his final map prior to the approval of the improvement plans.

In order to provide for this situation, the Department of Public Works has established criteria for the acceptance of pre-final improvement plans leading to recordation.

A copy of this criteria is attached. Any questions regarding this subject should be directed to Mr. Marvin Chiong of Development Management Section of the Land Development Division at (818) 458-4932.

MC:ca/PELD

Attach.

12-40

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

SAMPLE LETTER FOR THE
ACCEPTANCE OF PRE-FINAL IMPROVEMENT PLANS

_____, 1990

Los Angeles County
Department of Public Works
900 South Fremont Avenue
Alhambra, California 91803

Attention N. C. Datwyler

IMPROVEMENT PLANS - TRACT/PARCEL MAP NO.

Gentlemen:

We hereby state that we shall perform all engineering analysis, plan preparation, and plan processing procedures necessary to have the subject _____ plan(s) in a fully approved
(improvement)
state within ninety (90) days following the date of filing of the subject tract/parcel map.

We further state that the design of the subject _____
(improvement)
plan(s) shall be in compliance with all standards, policies and criteria utilized by the Department of Public Works.

Very truly yours

Name of Engineering Company

_____ _____
Signature - R.C.E. No.

We hereby state that we are the owner/developer of the above Tract/Parcel Map No. _____ and that there is a contract with _____ to ensure compliance with the above statement. This agreement is secured by a Letter of Credit No. _____.

(Name of owner/developer/corporation:)

By:

_____ _____
Authorized Agent Authorized Agent

Note: All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgments.)

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

GUIDELINES FOR THE ACCEPTANCE OF PRE-FINAL IMPROVEMENT PLANS FOR PURPOSES OF SUBDIVISION RECORDING

The following criteria must be used for the acceptance of pre-final improvement plans for purposes of subdivision recording:

1. Plans must bear signature(s) of design consultant(s) and be refined almost to the point of final approval.

2. Plans must be adequate for the establishment of bond amounts.

3. Easements:

   a. Onsite - Must be fully defined and documented.

   b. Offsite - Must be fully acquired or eminent domain acquisition agreement accepted by the County.

4. Grading plans - Must be completely approved by the County.

5. Joint letter must be submitted by design engineer and developer committing to all actions necessary to have plans in fully-approvable state within 90 days following date of recordation. See sample attached.

6. All fees/charges for processing must be paid prior to recordation. Engineer will calculate the fee amount, necessary to complete said plans based on the engineers hourly rate. As a contingency the fee will be doubled to make the total amount of the security.

7. A negotiable instrument of security must be provided to guarantee/provide funding for completion of plans. No surety bonds.

8. Design must comply with all standards/policies/criteria utilized by the Department of Public Works.

9. All necessary drainage release letters/deed restrictions must be provided to the satisfaction of the Department.

10. All necessary approvals from agencies, other than the County, must be provided to the satisfaction of the Department.

11. Engineer must have approval from section to submit Pre-final agreement.

05/15/91/PFIP

DATE _____

TR/PM _____

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

The following criteria must be satisfied prior to the acceptance of the improvement plans agreement for purposes of subdivision recording. All boxes must be checked indicating completion of the item. If information is incorrect, the agreement will not be accepted.

☐ Easements:

a. Onsite - fully defined and documented.

b. Offsite - fully acquired or eminent domain acquisition agreement accepted by the County.

☐ Grading plans - approved by the County.

☐ All fees/charges for processing paid.

☐ All necessary drainage release letters/deed restrictions provided to the satisfaction of the Department.

☐ All necessary approvals from agencies, other than the County, provided to the satisfaction of the Department.

Yes ☐ Have you previously submitted improvement plans for prefinal where completion has exceeded the 90-day time limit?

No ☐

I understand that the acceptance of a prefinal improvement agreement does not in itself designate the Development as a Special Status expedite Development and that the improvement plans must be refined almost to the point of final approval.

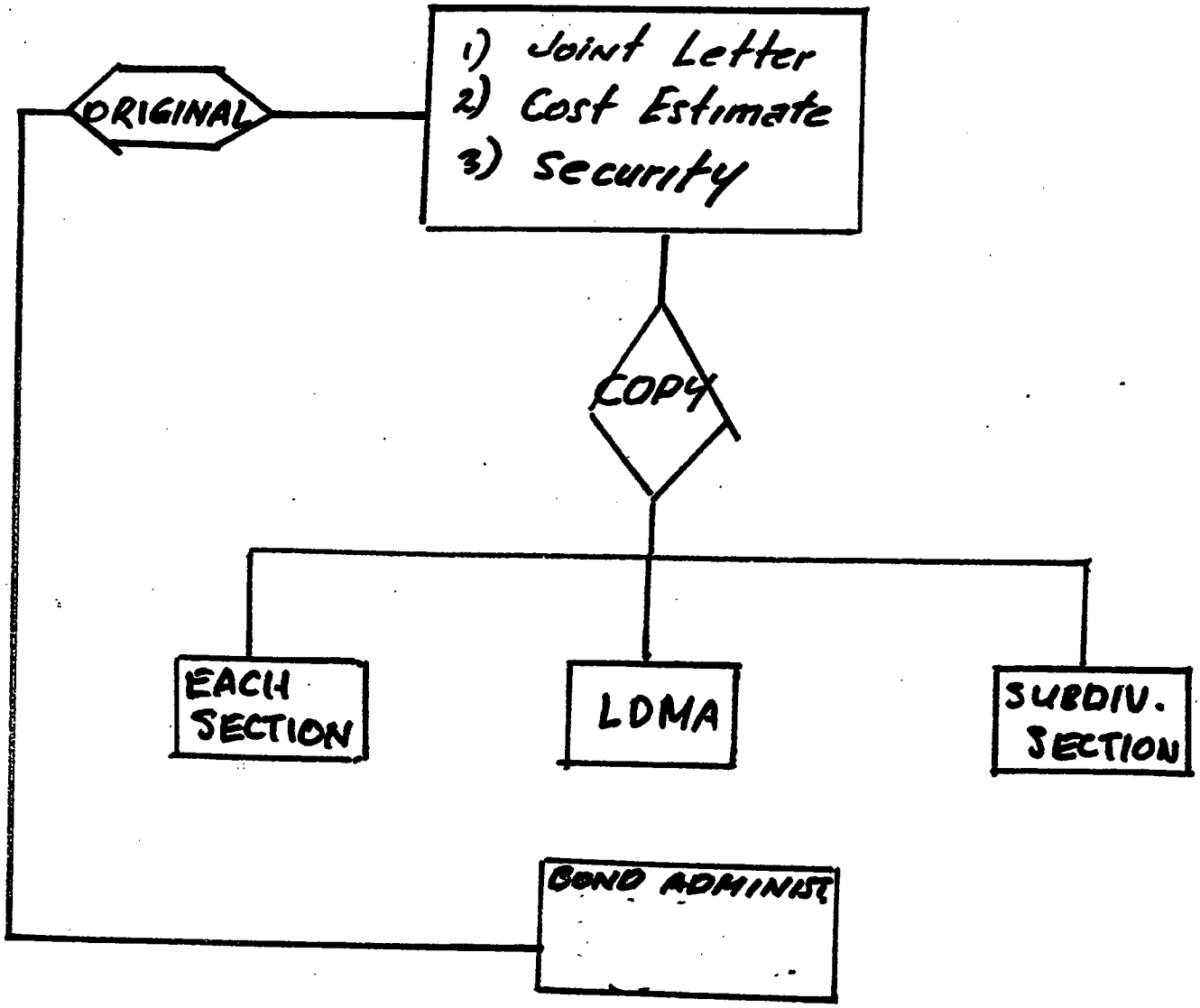
_____ _____

Authorized Agent Firm Name & Telephone Number

10/18/88/FI

DISTRIBUTION OF:

PAPER WORK FOR PROCESSING PRE-FINAL IMPROVEMENT PLANS AGREEMENT



CITY OR COUNTY ENGINEER'S STATEMENT AND SURVEYOR'S STATEMENT

COUNTY ENGINEER'S STATEMENT

I hereby state that I have examined this map and that the subdivision is substantially the same as it appeared on the tentative map, if required, and any approved alterations thereof and all provisions of the applicable State Codes and local ordinances applicable at the time of approval of the tentative map have been complied with.

County Engineer

Dated: _____ By _____

Deputy
Stamp or Seal
Registration Expiration Date

COUNTY SURVEYOR'S STATEMENT

I hereby state that I have examined this map and I am satisfied that it is technically correct.

County Surveyor

Dated: _____ By _____

Deputy
Stamp or Seal
Registration Expiration Date

CITY ENGINEER'S STATEMENT

I hereby state that I have examined this map and that the subdivision is substantially the same as it appeared on the tentative map, if required, and any approved alterations thereof and all provisions of the applicable State Codes and the City Ordinances applicable at the time of approval of the tentative map have been complied with.

City Engineer

Dated: _____ By _____

Deputy
Stamp or Seal
Registration Expiration Date

CITY SURVEYOR'S STATEMENT

I hereby state that I have examined this map and I am satisfied that it is technically correct.

City Surveyor

Dated: _____ By _____

Deputy
Stamp or Seal
Registration Expiration Date

The Engineer's and Surveyor's statement may be combined if the Engineer is qualified to practice land surveying. (See Chapter 61 of this Manual.)

AGENCIES CLEARING TRACT MAPS/PARCEL MAPS

REGIONAL PLANNING DEPARTMENT - (213) 974-6433

320 West Temple Street, Room 1382
Los Angeles, California 90012
Major Land Division - John Hartman
Minor Land Division - Armen Minasian

DEPARTMENT OF PUBLIC WORKS

900 South Fremont Avenue
Alhambra, California 91803

Land Development Division

Public Counter 5th Floor - (818) 458-4930 (Status and Submittals Only)

Subdivision Section - (818) 458-4915
Rick Briones

Road, Sewer and Water Section - (818) 458-4909
Road - Henry Shiang
Sewer - Augie Ibalio
Water - Toan Duong

Drainage & Grading Section - (818) 458-4921
Rebecca Camacho

Materials Engineering Division - (818) 458-4923
Geology - Dave Poppler
Soils - Fred Gharib

PARKS AND RECREATION - (213) 738-2971

433 South Vermont Avenue
Los Angeles, California 90020
Park Dedication - Joan Rupert
Trails Coordinator - Jim McCarthy (213) 738-2973

HEALTH SERVICES DEPARTMENT - (213) 881-4181

2525 Corporate Place
Monterey Park, California 91754
Cal Miller - (Al Bragg - (213) 881-4147

FORESTER & FIRE WARDEN - (213) 720-5141

5823 Rickenbacker Road
Commerce, California 90040
Captain - Frank Luna
Inspector - Spike Beck
Fire Protector Engineering

OFFICE OF ASSESSOR - (213) 974-3455

Hall of Administration
500 W. Temple St. 2nd Floor
Los Angeles, California 90012

Tax Security Estimate: Ida Cornish

TREASURER-TAX COLLECTOR - (213) 974-7223

Kenneth Hahn Hall of Administration
225 North Hill Street, Room 130
Los Angeles, CA 90012

Release of tax security: Velma Lowe or Urix Martin

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director
CECIL E. BUGH, Chief Deputy Director
MAS NAGAMI, Assistant Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: L-1
850.24

Date

Name _____
City Engineer
City of _____
Address _____
_____

Dear Sir:

TRACT NO. _____

The enclosed subject map has been checked by this Department for mathematical accuracy, survey analysis, title information, and for compliance with the State Subdivision Map Act and is ready for your examination and certification as to compliance with the conditional approval and applicable city ordinances.

The City Council should make the findings required by the State Environmental Quality Act and the State Subdivision Map Act.

After your approval and the approval of the City Council, the map should be returned to our office for filing with the County Recorder.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

By _____
Deputy

XX:xx

Enclosure

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director
CECIL E. BUGH, Chief Deputy Director
MAS NAGAMI, Assistant Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: L-1
850.18

Date

Name _____
City Engineer
City of _____
Address _____
_____

Dear Sir:

PARCEL MAP NO. _____

The enclosed subject parcel map has been checked by this Department for mathematical accuracy, survey analysis, and for compliance with the State Subdivision Map Act and is ready for your examination and certification as to compliance with the conditional approval and applicable city ordinances.

The City Council or Advisory Agency should make the findings required by the State Environmental Quality Act and the State Subdivision Map Act.

After your approval and the approval of the City Council or Advisory Agency, the map should be returned to our office for filing with the County Recorder.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

By _____
Deputy

XX:xx

Enclosure

12-48

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director
CECIL E. BUGH, Chief Deputy Director
MAS NAGAMI, Assistant Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: L-1
850.18

Date

Name _____
City Engineer
City of _____
Address _____
_____

Dear Sir:

PARCEL MAP NO. _____

The enclosed subject parcel map has been checked by this Department for mathematical accuracy, survey analysis, title information, and for compliance with the State Subdivision Map Act and is ready for your examination and certification as to compliance with the conditional approval and applicable city ordinances.

The City Council or Advisory Agency should make the findings required by the State Environmental Quality Act and the State Subdivision Map Act.

After your approval and the approval of the City Council or Advisory Agency, the map should be returned to our office for filing with the County Recorder.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

By _____
Deputy

XX:xx

Enclosure

12-49

CHAPTER 13

DRAFT

BOND PROCESSING

As discussed in Chapter 12, bonds and agreements are required whenever work must be guaranteed to be completed. (Examples are, grading, geologic hazard removal, private drains, road, sewers, water systems, walls, fences, street lighting, street trees, etc.).

A. Processing of Bonds and Agreements by the Applicant

The procedures for processing of bonds and agreements by the applicant are presented on Pages 13-3 and 13-4. When the preparation of Bonds, agreements, letters of credit, instruments of credit and/or securities are completed, they may be submitted to the Land Development Processing Center along with the necessary fees.

B. Types of Bonds and Agreements

As required under County and State Codes, four documents must be completed by the developer to guarantee completion of the required developments after subdivision recordation. The following documents are required for County unincorporated areas: The Faithful Performance Bond as shown on Pages 13-5 through 13-8, is a guarantee to the County by the developer that the required development will be completed. The Labor and Materials Bond, as shown on Pages 13-9 through 13-12, is a guarantee held by the County and required under State Codes to protect workers and materials suppliers from not receiving compensation for their services. The Multiple Agreement as shown on Pages 13-13 through 13-18 is a contract between the developer and the County defining development projects to be completed before the subdivision can be developed, sold or leased. The Tax Payment Bond as shown on Pages 13-19 and 13-20 may be required for all subdivisions within Cities or unincorporated areas and is a guarantee that all property taxes will be paid. (See Chapter 12 of this manual for determining the amounts required for the bonds and the required development projects.) If the subdivision is within a contract city, the following similar forms are required: The Faithful Performance Bond as shown on Pages 13-21 through 13-24 is a guarantee to the City by the developer that the required development will be completed. The Labor and Materials Bond as shown on Pages 13-25 through 13-28, is a guarantee held by the City and required under State Codes to protect workers and materials suppliers from not receiving compensation for their services. The Multiple Agreement as shown on Pages 13-29 through 13-34, is a contract between the developer and the City defining development projects to be completed before the subdivision can be developed sold or leased. The forms in this manual are for informational purposes only and are subject to change. All of these forms are available at the Land Development Division Processing Center. Only forms distributed by the Land Development Division from the Processing Center are to be used.

All improvement and tax bond and security processing shall be performed in accordance with the latest version of the Department's Reporting Procedure (RP) 77. A copy of this procedure is shown on Pages 13–40 through 13–41. Any questions regarding this procedure should be directed to the Department's Fiscal Division, telephone (818) 458-6503.

For projects in unincorporated County territory, the original copy of all bonds and agreements are sent by the Processing Center to County Counsel for review and approval. For projects within cities in which the Director of Public Works serves as City Engineer, the original copy is sent by the Processing Center to the city for review and approval. Once County bonds and agreements are approved, the original copy is returned to Land Development Division and placed in the Subdivision File. The exception is that the tax bond is placed in a file in the Bond Administration Subunit.

Two copies of the Bonds and Agreements are sent by the Processing Center one each to the Subdivision Section and the requesting section project files.

C. Letters of Credit

A letter of credit may be used in lieu of any Bond presented in Item B.

Irrevocable Standby Letters of Credit guaranteeing development using the Bank or Savings and Loan Stationary must be submitted as shown in the sample letter on Page 13-35. An Irrevocable Standby Letters of Credit" guaranteeing property taxes using the Bank or Savings and Loan Stationary must also be submitted as shown in the sample letter on Page 13-36.

D. Other Securities

Other securities may be utilized instead of improvement and tax payment bonds. These securities consist of cash or negotiable securities that can be easily converted to cash. When negotiable securities are received for improvement security, the form on Pages 13-37 and 13-38 is completed and distributed as a receipt. When negotiable securities are received for Tax Security, the form on Page 13-39 is completed and distributed as a receipt.

E. Bond, Agreement and Security Administration

Once the final map has been filed with the Register Recorder, copies of all bonds securities, and agreements under the jurisdiction of Land Development Division are sent to the Bond Administration Subunit of the Development Management Section. Bonds and securities for grading operations are administered by Building and Safety Division. All questions regarding the administration of grading bonds, securities and agreements should be directed to District office Managers (See Chapter 15 of this Manual.)

The Bond Administration Subunit reviews all bonds securities and agreements to verify that the conditions established in these agreements will be met.

Whenever, a wall and/or fence is required as part of the conditions of approval, this Sub-unit sends a notice noting that certain requirements for a wall and/or a fence must be on the building plans to Building and Safety Division. This Division is responsible for verifying that the wall and/or fence conditions are met. The procedures are described in Chapter 17.

This Bond Administration Subunit monitors the progress of the subdivision development and when the agreements have been fulfilled, the bonds are released. Special details regarding Bond Administration including clearances are found in subsequent chapters in Part II and III of this Manual.

F. Bond and Security Redemption and Agreement Termination

All bonds and agreements are held by the Bond Administration Subunit. All Letters of Credit and other securities are held in accordance with RP 77 by the Security Deposit Desk of Fiscal Division. These documents are held until they are redeemed or cashed to pay contractors or engineers or used to complete the agreement when the agreement expires. The redemption procedure for each type of improvement varies. Specific bond redemptions procedures are presented in the last part of the applicable Chapters in Part II of this Manual.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROCESSING BONDS AND AGREEMENTS FOR LAND DEVELOPMENT

A. PROCESSING

Bonds and agreements are processed in the following manner:

1. Obtain needed forms from our office and fill in all blank spaces (see Page 13-1). Only new forms (Rev. 2-83 or later) may be used. The following is our office address:

   County of Los Angeles
   Department of Public Works
   Land Development Processing Center
   900 South Fremont Avenue, Fifth Floor or P. O. Box 1460
   Alhambra, California 91803-1331 Alhambra, CA 91802-1460
   (818) 458-4930

2. All bonds and other forms of improvement security except for grading bonds are to be submitted to the Land Development Processing Center at the above address.

3. The forms noted below must be signed by the OWNER (Principal) and the signatures acknowledged by a Public Notary. Also noted are special requirements as follows:

   a. ALL AGREEMENTS (CONTRACTS) AND BONDS OR SECURITY IN LIEU OF BONDS must be signed and/or submitted by the same parties (Use County supplied forms).
   b. SECURITIES THAT ARE IN LIEU OF AN IMPROVEMENT BOND (except cash). Note the Deputy Clerk of the Board of Supervisors will <u>not accept</u> said securities which show an expiration date.
   c. FAITHFUL PERFORMANCE BONDS FOR GREATER THAN <u>$1,500.</u> (Smaller amounts are not acceptable.)

4. Execute the bonds with a surety company.

5. Have the bonds signed by the County Clerk. (See back side of bond form.)

   Address: Los Angeles County Court House
   Corporations Room 106
   111 North Hill Street
   Los Angeles, CA 90012

6. Return to the LAND DEVELOPMENT PROCESSING CENTER THE FOLLOWING:

   a. TAX BONDS: Two (2) copies--one (1) original and one (1) xerox.

   b. IMPROVEMENT SECURITIES: Two (2) originals and (1) copy of the agreement for each type of improvement. Two (2) original bonds.

   c. THREE-PARTY WATER AGREEMENT: Five (5) copies--three (3) originals and two (2) copies of the agreement and of each bond. When security other than a bond is submitted to a water company, submit a copy of the receipt for said security.

   d. $200 fee for processing each improvement. Payable at the time the bond is submitted.

   e. $100 fee for processing each tract and parcel map tax bond. Payable at the time the bond is submitted.

B. DIRECTIONS FOR SIGNING BONDS AND AGREEMENTS

One of the following procedures must be used:

1. Individuals

The signatures and acknowledgement must agree exactly, as shown in the caption of the bonds and agreements.

2. Corporations

a. The corporate name and acknowledgement must be in exact agreement with each other.
b. The names of the corporation must appear above the signatures of the officers executing on behalf of the corporation.
c. The titles of the officers signing for the corporation must be shown with their signatures. The corporation Seal must also appear.
d. The officers necessary to sign are the President or Vice President, together with the Secretary or Assistant Secretary. **Any exception or variance must be accompanied by a certified copy of the resolution of the Board of Directors stating which officer (or officers) of the corporation is authorized to sign solely (or jointly) for said corporation.**

3. Partnership and Joint Ventures

a. A recorded copy of the partnership or joint venture agreement must be presented to this office.
b. The partnership or joint venture name and acknowledgement must be in exact agreement with each other.
c. The name of the partnership or joint venture must appear above the signatures of the partners or ventures executing on behalf of the partnership of joint venture.
d. The titles of the parties signing for the partnership or joint venture must be shown with their signatures.

MISSING OR OMITTED ITEMS
WILL BE A CAUSE FOR
REJECTION OF THESE BONDS AND AGREEMENTS

LOS ANGELES COUNTY
PUBLIC WORKS DEPARTMENT
FAITHFUL PERFORMANCE BOND

For Tract/Parcel Map No._____

KNOW ALL MEN BY THESE PRESENTS:

that WE, _____
Name
of _____,
Address
as PRINCIPAL and_____

as SURETY, are firmly bound unto the COUNTY OF LOS ANGELES and each officer and employee thereof, hereinafter called the COUNTY, in the sum(s) indicated below, for the payment of which sum(s), we hereby bind ourselves, our heirs, executors, administrators, successors or assignees, jointly and severally.

The condition of the foregoing obligation is such that whereas said PRINCIPAL has entered into or is about to enter into the annexed contract(s) with the COUNTY, pursuant to the authority granted in Division 2, Title 7, of the Government Code (Known as the "Subdivision Map Act".) and pursuant to the authority granted in Title 21 of the Los Angeles County Code, which

said contract(s), dated_____, 19_____, are hereby referred to and made a part hereof, for

the following work checked below for Tract No./Parcel Map No._____, to wit:

[ ] A 5-foot CHAIN LINK FENCE improvement in the sum of _____

_____ dollars

($_____).

[ ] A COMBINATION MASONRY WALL AND CHAIN LINK FENCE improvement in the sum of

_____ dollars

($_____).

[ ] A 5-foot MASONRY WALL improvement in the sum of _____

_____ dollars

($_____).

[ ] CORRECTIVE GEOLOGIC improvement in the sum of _____

_____ dollars

($_____).

[ ] DRAINAGE FACILITIES in the sum of_____

_____ dollars

($_____)

[ ] SANITARY SEWER improvement, under Private Contract No. _____

in the sum of _____ dollars

($_____).

[ ] STORM DRAIN improvement under Private Drain No. _____

in the sum of _____ dollars

($_____).

[ ] WATER SYSTEM improvements in the sum of _____

_____ dollars

($_____).

[ ] ROAD improvements in the sum of _____

_____ dollars

($_____).

[ ] STREET TREE improvements in the sum of _____

_____ dollars

($_____).

[ ] _____

improvements in the sum of _____

[ ] _____ dollars

($_____).

All is in accordance with the attached contract(s) and is required by said COUNTY to give this bond in connection with the execution of said contract(s).

If the annexed contracts listed above include an agreement for monumentation, then a further condition of the foregoing obligation is for the payment of the amount of the bond to the COUNTY for the benefit of the authorized surveyor or engineer who has performed the work and has not been paid by the contractor as provided for in Division 2, Title 7, of the Government Code.

Now therefore, if the said PRINCIPAL shall completely perform all of the covenants and obligations of said contract(s) and any alteration thereof made as therein provided, on his part to be performed at the times and in the manner specified therein, and in all respects according to its true intent and meaning, and shall indemnify and save harmless COUNTY, its officers, agents, and employees, as therein stipulated, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect. The SURETY hereby expressly consents to, and waives any prior notice of, the granting, from time to time by the COUNTY to the PRINCIPAL, of any extensions of time to perform and complete the work under the annexed contract(s) or to the work or to any such changes or alterations to the work or to the specifications, ordered by the COUNTY pursuant to the provisions of said contract(s). The SURETY further expressly agrees that any such extensions of time or any such changes or alterations shall not in any way affect its obligation on this bond.

The provisions of Section 2845 of the Civil Code are not a condition precedent to the SURETY'S obligation hereunder and are waived by the SURETY. As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the COUNTY in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

Furthermore, the SURETY expressly agrees as follows:

(1) If the PRINCIPAL fails to complete any work herein above listed within the time specified in the annexed contract(s), the COUNTY may, upon written notice to the PRINCIPAL, served in the time and manner provided in the applicable Code, determine that said work or any part thereof is uncompleted, and may cause to be forfeited to the COUNTY such portion of this obligation as may be necessary to complete such work.

(2) If the PRINCIPAL shall fail to complete more than one of the requirements hereinabove listed within the specified time, the COUNTY shall not be required to declare a forfeiture of this obligation or to requirements and may subsequently, from time to time, declare additional forfeitures or prosecute additional actions under this bond as to any one or more of the remaining uncompleted requirements, even though the COUNTY knows or has reason to know, at the time of the initial forfeiture, that the requirements to which the subsequent forfeitures or prosecutions of action pertain were not, as of the time of the initial forfeiture, completed within the time specified for completion.

(3) The COUNTY may expressly exonerate the SURETY with respect to any one or more of the annexed contract(s) without waiving any of its rights against the PRINCIPAL or the SURETY under any other such contract(s).

IN WITNESS there by, the PRINCIPAL and SURETY caused this bond to be executed on this _____ date of _____, 19_____.

Principal _____

(Seal)

Principal _____

No riders, endorsements, or attachments have been made hereto by the Surety except as noted hereon to the right.

Surety _____

Address _____

Note: All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgement jurats.)

By _____

Received on behalf of the COUNTY OF LOS ANGELES by the DIRECTOR OF PUBLIC WORKS

By _____
Deputy

Date: _____

Approved as to form
COUNTY COUNSEL

By _____
Deputy

"I HEREBY CERTIFY:

1. That _____ has been certified by the State Insurance Commissioner as an admitted surety insurer and that such authority is in full force and effect.

2. That the person executing the within bond on behalf of the surety is authorized to do so under a power of attorney on file with this office.

3. That there is on file in this office the financial statement of the surety for the period ending _____ showing capital and surplus not less than ten times the amount of this bond."

COUNTY CLERK

By_____
Deputy

Dated_____

LOS ANGELES COUNTY
PUBLIC WORKS DEPARTMENT
LABOR AND MATERIAL BOND

For Tract/Parcel Map No._____

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
Name

of_____,
Address

as PRINCIPAL and _____as SURETY, are firmly bound unto the COUNTY OF LOS ANGELES, hereinafter called the COUNTY, in the sum(s) indicated below, for the payment of which sum(s), we hereby bind ourselves our heirs, executors, administrators, successors, or assignees, jointly and severally.

The condition of the foregoing is such that whereas said PRINCIPAL has entered into or is about to enter into the annexed contract(s) with the COUNTY pursuant to the authority granted in Division 2, Title 7 of the Government Code (Known as the

"Subdivision Map Act") which said contract(s) dated_____, 19_____, are hereby referred

to and made a part hereof, for the following work checked below for Tract No./Parcel Map No_____, to wit:

[ ] A 5-foot CHAIN LINK FENCE labor and materials in the sum of _____

_____

_____ dollars($_____).

[ ] A COMBINATION MASONRY WALL AND CHAIN LINK FENCE labor and materials in the sum of

_____

_____ dollars ($_____).

[ ] A 5-foot MASONRY WALL labor and materials in the sum of _____

_____

_____ dollars ($_____).

[ ] CORRECTIVE GEOLOGIC improvements labor and materials in the sum of _____

_____

_____ dollars ($_____).

[ ] DRAINAGE FACILITIES labor and materials in the sum of _____

_____

_____ dollars ($ _____).

[ ] SANITARY SEWERS labor and materials, under Private Contract No._____,

in the sum of _____

_____

_____ dollars ($_____).

[ ] STORM DRAINS labor and materials, under Private Drain No. _____,

in the sum of _____

_____

_____ dollars ($_____).

[ ] WATER SYSTEM labor and materials in the sum of _____

_____

_____ dollars ($_____).

[ ] ROAD improvements labor and materials in the sum of _____

_____

_____ dollars ($_____).

[ ] STREET TREE improvements labor and materials in the sum of _____

_____

_____ dollars ($_____).

[ ] _____

labor and materials in the sum of _____

_____ dollars ($ _____).

[ ] _____

labor and materials in the sum of _____

_____

_____ dollars ($_____).

Whereas, pursuant to said Code, the PRINCIPAL must give this bond for labor and materials before entering upon the performance of the work, to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code, as a condition to the execution of said contract(s) by the COUNTY.

Now therefore, if said PRINCIPAL fails to pay the contractor or subcontractor, or fails to pay persons renting equipment or furnishing labor or materials to the contractor or subcontractors for the performance of said contract(s), including any materials, provisions, or other supplies or teams, equipment, implements, trucks, machinery, or power used in, upon, for, or about the performance of the work contracted to be done, including any changes or alterations ordered by the COUNTY pursuant to the

provisions of said contract(s), or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, said SURETY will pay the same not exceeding the sum set forth above, and also, in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorney's fees incurred by the COUNTY in successfully enforcing such obligation, to be fixed by the court, and to be taxed as costs, and to be included in the judgement therein rendered.

This bond shall insure to the benefit of any and all persons, companies, and corporations entitled to file claims under Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

The SURETY hereby expressly consents to, and waives any prior notice of, the granting, from time to time by the COUNTY, to the PRINCIPAL, of any extensions of time to perform and complete the work under the annexed contract(s) and to any changes or alterations to the terms of the contract(s) or to the work or to the specifications ordered by the COUNTY pursuant to the provisions of said contract(s). The SURETY further expressly agrees that any extensions of time or any such changes or alterations shall not in any way affect its obligation on this bond. The provisions of Section 2845 of the Civil Code are not a condition precedent to the SURETY's obligation hereunder and are waived by the SURETY.

IN WITNESS there by, the PRINCIPAL and SURETY caused this bond to be executed on this _____ date of _____, 19_____.

Principal _____

(Seal)

Principal _____

No riders, endorsements, or attachments have been made hereto by the Surety except as noted hereon to the right.

Surety _____

Address _____

Note: All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgement jurats.)

By _____

Received on behalf of the COUNTY OF LOS ANGELES by the DIRECTOR OF PUBLIC WORKS

By _____
Deputy

Date: _____

Approved as to form
COUNTY COUNSEL

By _____
Deputy

"I HEREBY CERTIFY:

1. That _____ has been certified by the State Insurance Commissioner as an admitted surety insurer and that such authority is in full force and effect.

2. That the person executing the within bond on behalf of the surety is authorized to do so under a power of attorney on file with this office.

3. That there is on file in this office the financial statement of the surety for the period ending _____ showing capital and surplus not less than ten times the amount of this bond."

COUNTY CLERK

By_____
Deputy

Dated_____

LOS ANGELES COUNTY
PUBLIC WORKS DEPARTMENT
MULTIPLE AGREEMENT

For Tract/Parcel Map No._____

THIS AGREEMENT, made and entered into on_____, 19_____, by and between the COUNTY OF LOS ANGELES, State of California, acting by and through the Director of Public Works, hereinafter called the COUNTY, and _____

_____
(Name)

_____

_____
(Address)

_____
hereinafter called the SUBDIVIDER.

WITNESSETH:

FIRST: The SUBDIVIDER for and in consideration of the approval of the final map of that certain land division known as Tract No./Parcel Map No._____hereby agrees, at the SUBDIVIDER'S own cost and expense, to furnish all labor, materials and equipment necessary to perform and complete, and within twenty-four (24) months from the date of filing of said map, to perform and complete in a good and workmanlike manner, for the COUNTY where applicable, the following improvement(s) and/or work checked below, to wit:

[ ] A 5-foot CHAIN LINK FENCE per latest revision of Standard Plan for Public Works Construction No. 600 at the rear

and/or side of lots/parcels _____

_____ (inclusive)adjacentto

_____.The

estimated cost of this work is the sum of _____

_____ dollars

($ _____).

[ ] A COMBINATION MASONRY WALL AND CHAIN LINK FENCE per County Engineer Standard D-63 at the rear and/or side of

lots/parcel _____

_____ (inclusive)adjacentto

_____

The estimated cost of this work is the sum of _____

_____ dollars

($ _____).

[ ] A 5-foot MASONRY WALL per County Engineer Standard D-65 at the rear and/or side of

lots/parcels _____ (inclusive) adjacent to _____. The estimated cost of this work is the sum of _____ _____ dollars ($ _____).

[ ] CORRECTIVE GEOLOGIC IMPROVEMENTS. Said work shall be done under the provisions of Title 26 of the Los Angeles County Code. The estimated cost of this work is the sum of _____ _____ dollars ($ _____).

[ ] SANITARY SEWERS and appurtenances thereto, under Private Contract No. _____, in streets and/or rights of way. In addition, SUBDIVIDER hereby offers said improvement for dedication. The estimated cost of this work is the sum of _____ _____ dollars ($ _____).

[ ] STORM DRAINS and appurtenances thereto, under Private Drain No._____, in streets and/or rights of way. In addition, SUBDIVIDER hereby offers said improvement for dedication. The estimated cost of this work is the sum of _____ _____ dollars ($ _____).

[ ] Setting of SURVEY MONUMENTS and tie points and furnishing to the Director of Public Works tie notes for said points, according to the provisions of Title 21 of the Los Angeles County Code regulating division and mapping of land, and paying the surveyor or engineer of record or his authorized substitute of the work performed by him and notice subdivider and County Engineer when monuments have been set as provided for in Division 2, Chapter 4, Article 9 of Title 7 of the Government Code, (the Subdivision map Act). The estimated cost of this work is the sum of _____ _____ dollars ($_____).

[ ] WATER SYSTEM FACILITIES including pump stations, water tanks, water mains, water wells, fire hydrants, and all other appurtenances thereto, in dedicated public streets, private streets and easements, in accordance with plans and specifications consistent with the design requirements and standard specifications governing the installation of Water systems as filed by the County Engineer with the Clerk of the Board of Supervisors of the COUNTY OF LOS

ANGELES. The estimated cost of this work is the sum of _____

_____ dollars

($ _____).

[ ] ROAD IMPROVEMENTS in accordance with the Road Plans for said land division filed in the office of the Director of Public Works and to do all work incidental thereto according to the standard Specifications for Public Works Construction, as amended, which are hereby made a part of this agreement. The estimated cost of this work and

improvements is the sum of _____

_____ dollars

($ _____).

[ ] STREET TREE IMPROVEMENTS in accordance with the Road Plans for said land division filed in the office of the Director of Public Works and to do all work incidental thereto according to the Standard Specifications for Public Works Construction, as amended, which are hereby made a part of this part of this agreement. The estimated cost of this

work and improvements is the sum of _____

_____ dollars

($ _____).

[ ] _____

The estimated cost of this work is the sum of _____

_____ dollars

($ _____).

[ ] _____

The estimated cost of this work is the sum of_____

_____ dollars

($ _____).

The above mentioned improvement(s) to be constructed within and without the boundaries of said land division according to plans and/or applicable standards on file in the office of the Director of Public Works and/or other County officials as applicable and hereby made a part of this contract as fully as though set forth herein. That said work shall be done under the inspection of, and to the satisfaction of, the Director of Public Works and/or other county official as applicable, and shall not be deemed completed until approved and accepted as complete by the COUNTY. Said acceptance of the improvements shall also constitute acceptance of any offer of dedication contained herein.

SECOND: That the COUNTY shall not, nor shall any officer or employee thereof, be liable or responsible for any accident, loss or damage happening or occurring to the work specified in this agreement prior to the completion, approval, and/or acceptance of same; nor shall the COUNTY, nor any

officer or employee thereof, be liable for any persons or property injured by reason of said work or by reason of the acts or omission of the SUBDIVIDER, his agents or employees, in performance of said work. All of said liabilities shall be assumed by the SUBDIVIDER. The SUBDIVIDER further agrees to indemnify, defend and save harmless the COUNTY, its agents, officers and employees from and against any and all liability, expense, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the SUBDIVIDER'S operations, or its services hereunder, including any workers' compensation suits, liability, or expense, arising from or connected with services by any person pursuant to this agreement, or arising out of the use of any patent or patented article in the construction of said work.

THIRD: The SUBDIVIDER hereby grants to the COUNTY, the Surety upon any Bond, the financial institution of any improvement security, and to the agents, employees, and contractor of them the irrevocable permission to enter upon the lands of the subject land division for the purpose of completing the improvement. The permission shall terminate in the event that the SUBDIVIDER, financial institution, or the Surety has completed the work within the time specified or any extension thereof granted by the Director of Public Works.

FOURTH: It is further agreed that the SUBDIVIDER will at times from the approval of said land division to the completion and acceptance of said work or improvement by the COUNTY, give good and adequate warning of each and every dangerous condition caused by the construction of said improvements and will protect the traveling public therefrom.

FIFTH: If is further agreed that the SUBDIVIDER shall have such control of the ground/area reserved for the installation of such work, and the streets in which they are to be placed, as is necessary to allow him/her to carry out this agreement.

SIXTH: The SUBDIVIDER hereby agrees to pay for the inspection of such work and improvements as may be required by the Director of Public Works and/or other County official.

SEVENTH: The SUBDIVIDER shall give notice to the Director of Public Works at least 24 hours before beginning any work and shall furnish said Director of Public Works all reasonable facilities for obtaining full information respecting the progress and manner of work.

EIGHTH: The SUBDIVIDER agrees to grant to the COUNTY such easements as are necessary for the upkeep and maintenance by the COUNTY of the improvements agreed to be constructed herein.

NINTH: The SUBDIVIDER shall perform any changes or alterations in the construction and installation of such improvements required by the COUNTY, provided that all such changes or alterations do not exceed ten percent of the original total estimated cost of such improvements. Said cost is to be borne by the SUBDIVIDER.

TENTH: The SUBDIVIDER shall guarantee such improvements for a period of one year following the completion by the SUBDIVIDER and acceptance by the COUNTY against any defective work or labor done, or defective materials furnished, in the performance of this agreement by the SUBDIVIDER.

ELEVENTH: The SUBDIVIDER hereby agrees that all work on any County Highway, which existed prior to the filing of said map, shall be completed in accordance with the terms and provisions of Title 16, Division 1, of the Los Angeles Code (Highway Permits). Said Code requires, in part, that once work is commenced, it shall be prosecuted in a diligent and workmanlike manner to completion. If the COUNTY determines that the SUBDIVIDER has failed to perform as therein specified, the COUNTY reserves the right to exclude the SUBDIVIDER from the site and complete the work contemplated by COUNTY forces or by separate contract. The SUBDIVIDER further agrees to reimburse the COUNTY for all charges accruing as a result of such construction by COUNTY forces or separate contract.

TWELFTH: It is further agreed that the SUBDIVIDER has filed with the COUNTY, an acceptable and sufficient improvement security in an amount not less than the estimated cost of the work and improvements, as above specified, for the faithful performance of the terms and conditions and guarantees of this agreement and has also deposited with the COUNTY a good and sufficient payment security for labor and materials in the amount prescribed by law to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code. If said improvement security or payment security becomes insufficient in the Opinion of the COUNTY, the SUBDIVIDER agrees to renew said improvement security and/or payment security with good and sufficient improvement security and/or payment security within ten days after receiving demand therefor.

THIRTEENTH: If the SUBDIVIDER neglects, refuses, or fails to prosecute the work with such diligence as to insure its completion within the time specified, or within such extensions of said time as have been granted by the Director of Public Works, or if the SUBDIVIDER violates or neglects, refuses, or fails to perform satisfactorily any of the provisions of the plans and specifications, he shall be in default of this agreement and notice in writing of such default shall be served upon him and upon any Surety or financial institution in connection with this contract. The Director of Public Works, and/or other County official, shall have the power to terminate all rights of the SUBDIVIDER in such contract, but said termination shall not affect or terminate any of the rights of the COUNTY as against the SUBDIVIDER, financial institution, or Surety then existing or which thereafter accrue because of such default. The determination by the Director of Public Works of the question as to whether any of the terms of the contract or specifications have been violated, or have not been performed satisfactorily, shall be conclusive upon the SUBDIVIDER, his surety, and any and all other parties who may have any interest in the contract or any portion thereof. The foregoing provisions of this section shall be in addition to all other rights and remedies available to the COUNTY under law.

FOURTEENTH: In case suit is brought upon this contract, the SUBDIVIDER hereby agrees to pay to the COUNTY reasonable attorney's fees to be fixed by the Court.

FIFTEENTH: It is further agreed by and between the parties hereto, including the Surety or Sureties on any Bond attached to this contract or the financial institution guaranteeing the improvement security, that in the event it is deemed necessary by the COUNTY to extend the time of completion of the work contemplated to be done under this contract, said extension may be granted by the Director of Public Works either at his own option or upon request of the SUBDIVIDER, and shall in no way affect the validity of this contract or release the Surety or Sureties on any Bond attached hereto or the financial institution guaranteeing the improvement security. SUBDIVIDER further agrees to maintain said improvement security and payment security in full force and effect during the terms of this agreement, including any extensions of time as may be granted therein.

SIXTEENTH: Before the SUBDIVIDER files the final improvement plans for the various types of improvements described herein, in the discretion of, and under conditions approved by the Director of Public works, the SUBDIVIDER may file detailed pre-final improvements plans. Such pre-final plans, following approval by the Director of Public Works, may be submitted to meet the requirements for the clearance of the final map. The SUBDIVIDER agrees to make such changes in the pre-final improvement plans as may be required by the Director of Public Works within ninety (90) days following recordation of the final map, and to replace said pre-final plans with final improvement plans, approved by the Director of Public Works, before the SUBDIVIDER can apply for construction-inspection permit. It is agreed by and between the parties hereto, including the Surety or Sureties on any bond attached to this contract or the financial institution guaranteeing the improvement security that any such changes to the pre-final plans shall not be deemed to be a change or alteration in any respect to the SUBDIVIDERS original obligations herein.

SEVENTEENTH: It is further agreed by and between the parties hereto that this contract firmly binds the parties, their heirs, executors, administrators, successors or assignees, jointly and severally.

IN WITNESS there by, SUBDIVIDER has affixed his name and seal.

(Seal)

By _____

By _____

Note:
All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgments jurats.)

Approved as to form

COUNTY COUNSEL

Accepted on behalf of the County of Los Angeles by the DIRECTOR OF PUBLIC WORKS

By _____
Deputy

By _____
Deputy

Date _____

BOND FOR PAYMENT OF TAXES IN SUBDIVISION OF LAND

For Tract/Parcel Map No._____

know All Men By These Presents

THAT WE _____

as Principal(s), and _____

_____as Surety, are

held and firmly bound unto the County of Los Angeles, State of California, in the penal sum of _____

_____ dollars ($ _____) for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, successors and assigns, jointly and severally, by these presents:

THE CONDITION of the above obligation is such that whereas, the owner(s) of a division of land representing a certain subdivision of real estate, to-wit: Tract No./Parcel Map No. _____ _____, intend(s) to file a map thereof with the Recorder of the County of Los Angeles.

AND WHEREAS, the provisions of the State Codes require that this bond be filed with the Clerk of the Board of Supervisors of said County.

NOW THEREFORE, If the said principal(s) shall pay, or cause to be paid, when due, all taxes, and all special assessments collected like taxes, which at the time of filing said map, are a lien against such subdivision, or any part thereof, but not yet payable or for which a tax bill has not been prepared, then this obligation shall cease and be void, otherwise it shall remain in full force and effect until said taxes, which include amounts shown on the regular assessment roll and any supplemental roll, are paid in full, including any penalties and interest incurred. If legal action is required to recover under this bond, the protection afforded by it shall cover the payment of reasonable attorney's fees. The provisions of Section 2845 of the Civil Code are not a condition precedent to the surety's obligation hereunder and are hereby waived by the surety.

IN WITNESS there by, the PRINCIPAL and SURETY caused this bond to be executed on this _____ date of _____, 19_____.

Principal _____

(Seal)

_____

Surety _____

Address _____

Note: All signatures, both proncipal and surety must be acknowledge before a notary public.

By _____

By _____
Deputy

Approved as to form
COUNTY COUNSEL

Date: _____

By _____
Deputy

"I HEREBY CERTIFY:

1. That _____ has been certified by the State Insurance Commissioner as an admitted surety and that such authority is in full force and effect.

2. That the person executing the within bond on behalf of the surety is authorized to do so under a power of attorney on file with this office.

3. That there is on file in this office the financial statement of the surety for the period ending _____ showing capital and surplus not less than ten times the amount of this bond ."

COUNTY CLERK

By _____
Deputy

Dated_____

CITY ENGINEER AND
SUPERINTENDENT OF STREETS
FAITHFUL PERFORMANCE BOND

For Tract/Parcel Map No._____

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
Name

of _____,
Address

as PRINCIPAL and
as SURETY, are firmly bound unto the CITY OF _____ and each officer and employee thereof, hereinafter called the CITY, in the sum(s) indicated below, for the payment of which sum(s), we hereby bind ourselves, our heirs, executors, administrators, successors or assignees, jointly and severally.

The condition of the foregoing obligation is such that whereas said PRINCIPAL has entered into or is about to enter into the annexed contract(s) with the CITY, pursuant to the authority granted by Division 2, Title 7, of the Government Code (Known as the "Subdivision Map Act".) and pursuant to the authority of the local ordinance or codes governing land division in the City, which said contract(s), dated _____, 19 _____, are hereby referred to and made a part hereof, for the following work checked below for Tract No./Parcel Map No._____, to wit:

[ ] A 5-foot CHAIN LINK FENCE improvement in the sum of _____

_____

_____ dollars ($_____).

[ ] A COMBINATION MASONRY WALL AND CHAIN LINK FENCE improvement in the sum of

_____

_____ dollars ($_____).

[ ] A 5-foot MASONRY WALL improvement in the sum of _____

_____

_____ dollars ($_____).

[ ] CORRECTIVE GEOLOGIC improvements in the sum of _____

_____

_____ dollars ($_____).

[ ] DRAINAGE FACILITIES in the sum of _____

_____

_____ dollars ($_____).

[ ] SANITARY SEWER improvement, under Private Contract No. _____, in the sum of _____

_____ dollars ($_____).

[ ] STORM DRAIN improvement under Private Drain No. _____, in the sum of _____

_____ dollars ($_____).

[ ] MONUMENTATION in the sum of _____

_____

_____ dollars ($ _____).

[ ] WATER SYSTEM improvements in the sum of _____

_____

_____ dollars ($ _____).

[ ] ROAD improvements in the sum of _____

_____

_____ dollars ($ _____).

[ ] STREET TREE improvements in the sum of _____

_____

_____ dollars ($ _____).

[ ] _____

improvements in the sum of _____

_____

_____ dollars ($ _____).

All is in accordance with the attached contract(s) and is required by said CITY to give this bond in connection with the execution of said contract(s).

If the annexed contracts listed above include an agreement for monumentation, then a further condition of the foregoing obligation is for the payment of the amount of the bond to the CITY for the benefit of the authorized surveyor or engineer who has performed the work and has not been paid by the contractor as provided for in Division 2, Title 7, of the Government Code.

Now therefore, if the said PRINCIPAL shall completely perform all of the covenants and obligations of said contract(s) and any alteration thereof made as therein provided, on his part to be performed at the times and in the manner specified therein, and in all respects according to its true intent and meaning, and shall indemnify and save harmless the CITY, its officers, agents, and employees, as therein stipulated, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect. The SURETY hereby expressly consents to and waives any prior notice of, the granting, from time to time by the CITY, to the PRINCIPAL, of any extensions of time to perform and complete the work under the annexed contract(s) or to the work or to the specifications, ordered by the CITY pursuant to

the provisions of said contract(s). The SURETY further expressly agrees that any such extensions of time or any such changes or alterations shall not in any way affect its obligation on this bond.

The provisions of Section 2845 of the Civil Code are not a condition precedent to the SURETY's obligation here under and are waived by the SURETY. As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the CITY in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

Furthermore, the SURETY expressly agrees as follows:

(1) If the PRINCIPAL fails to complete any work herein above listed within the time specified in the annexed contract(s), the CITY may, upon written notice to the PRINCIPAL, served in the time and manner provided in the applicable Code, determine that said work or any part thereof is uncompleted, and may cause to be forfeited to the CITY such portion of this obligation as may be necessary to complete such work.

(2) If the PRINCIPAL shall fail to complete more than one of the requirements hereinabove listed within the specified time, the CITY shall not be required to declare a forfeiture of this obligation or to prosecute an action under this bond as to all such uncompleted requirements and may subsequently, from time to time, declare additional forfeitures or prosecute additional actions under this bond as to any one or more of the remaining uncompleted requirements, even though the CITY knows or has reason to know, at the time of the initial forfeiture, that the requirements to which the subsequent forfeitures or prosecutions of action pertain were not, as of the time of the initial forfeiture, completed within the time specified for completion.

(3) The CITY may expressly exonerate the SURETY with respect to any one or more of the annexed contract(s) without waiving any of its rights against the PRINCIPAL or the SURETY under any other such contract(s).

IN WITNESS there by, the PRINCIPAL and SURETY caused this bond to be executed on this _____ date of _____, 19_____.

Principal _____

(Seal)

Principal _____

No riders, endorsements, or attachments have been made hereto by the Surety except as noted hereon to the right.

Surety _____

Address _____

Note: All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgement jurats.)

By _____

Received on behalf of the
City of _____
by the City Engineer

By _____
Deputy

Date: _____

Approved as to form
COUNTY COUNSEL

By _____
Deputy

"I HEREBY CERTIFY:

1. That _____ has been certified by the State Insurance Commissioner as an admitted surety insurer and that such authority is in full force and effect.

2. That the person executing the within bond on behalf of the surety is authorized to do so under a power of attorney on file with this office.

3. That there is on file in this office the financial statement of the surety for the period ending _____ showing capital and surplus not less than ten times the amount of this bond."

COUNTY CLERK

By_____
Deputy

Dated_____

CITY ENGINEER AND
SUPERINTENDENT OF STREETS
LABOR AND MATERIAL BOND

For Tract/Parcel Map No._____

KNOW ALL MEN BY THESE PRESENTS:

That we,_____
Name
of _____
Address
as PRINCIPAL and _____

as SURETY, are firmly bound unto the CITY OF_____, hereinafter called the CITY, in the sum(s) indicated below, for the payment of which sum(s), we hereby bind ourselves, our heirs, executors, administrators, successors, or assignees, jointly and severally.

The condition of the foregoing is such that whereas said PRINCIPAL has entered into or is about to enter into the annexed contract(s) with the CITY pursuant to the authority granted in Division 2, Title 7 of the Government Code (Known as the "Subdivision Map Act".) which said contract(s) date _____, 19_____, are hereby referred to and made a part hereof, for the following work checked below for Tract No./Parcel Map No._____, to wit:

[ ] A 5-foot CHAIN LINK FENCE labor and materials in the sum of _____

_____ dollars ($_____).

[ ] A COMBINATION MASONRY WALL AND CHAIN LINK FENCE labor and materials in the sum

of _____

_____dollars ($_____).

[ ] A 5-foot MASONRY WALL labor and materials in the sum of _____

_____

_____dollars ($_____).

[ ] CORRECTIVE GEOLOGIC improvements labor and materials in the sum of _____

_____

_____ dollars ($ _____).

[ ] DRAINAGE FACILITIES labor and materials in the sum of _____

_____

_____ dollars ($ _____).

[ ] SANITARY SEWERS labor and materials, under Private Contract No._____,

in the sum of _____

_____ dollars ($ _____).

[ ] STORM DRAINS labor and materials, under Private Drain No. _____, in the sum of _____

_____

_____ dollars ($ _____).

[ ] WATER SYSTEM labor and materials in the sum of _____

_____

_____ dollars ($ _____).

[ ] ROAD improvements labor and materials in the sum of _____

_____

_____ dollars ($ _____).

[ ] STREET TREE improvements labor and materials in the sum of _____

_____

_____ dollars ($ _____).

[ ] _____

labor and materials in the sum of _____

_____

_____ dollars ($ _____).

[ ] _____

labor and materials in the sum of _____

_____

_____ dollars ($ _____).

All pursuant to said Code, the PRINCIPAL must give this bond for labor and materials before entering upon the performance of the work, to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code as a condition to the execution of said contract(s) by the CITY.

Now therefore, if said PRINCIPAL fails to pay the contractor or subcontractor, or fails to pay persons renting equipment or furnishing labor or materials to the contractor or subcontractors of the performance of said contract(s), including any materials, provisions, or other supplies or teams, equipment, implements, trucks, machinery, or power used in, upon, for, or about the performance of the work contracted to be done, including any changes or alterations ordered by the CITY pursuant to the provisions of said contract(s), or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, said SURETY will pay the same in an amount not exceeding the sum set forth above, and also, in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorney's fees incurred by the CITY in successfully enforcing such obligation, to be fixed by the court, and to be taxed as costs, and to be included in the judgement therein rendered.

This bond shall insure to the benefit of any and all persons, companies, and corporations entitled to file claims under Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

The SURETY hereby expressly consents to, and waives any prior notice of, the granting, from time to time by the CITY, to the PRINCIPAL, of any extensions of time to perform and complete the work under the annexed contract(s), and to any changes or alterations to the terms of the contract(s) or to the work or to the specifications ordered by the CITY pursuant to the provisions of said contract(s). The SURETY further expressly agrees that any extensions of time or any such changers or alterations shall not in any way affect its obligation on this bond. The provisions of Section 2845 of the Civil Code are not a condition precedent to the SURETY's obligation hereunder and are waived by the SURETY.

IN WITNESS there by, the PRINCIPAL and SURETY caused this bond to be executed on this _____ date of _____, 19_____.

Principal _____

(Seal)

Principal _____

No riders, endorsements, or attachments have been made hereto by the Surety except as noted hereon to the right.

Surety _____

Address _____

Note: All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgement jurats.)

By _____

Received on behalf of the
City of _____
by the City Engineer

Approved as to form
CITY ATTORNEY

By _____
Deputy

By _____
Deputy

Date: _____

"I HEREBY CERTIFY:

1. That _____ has been certified by the State Insurance Commissioner as an admitted surety insurer and that such authority is in full force and effect.

2. That the person executing the within bond on behalf of the surety is authorized to do so under a power of attorney on file with this office.

3. That there is on file in this office the financial statement of the surety for the period ending _____ showing capital and surplus not less than ten times the amount of this bond."

COUNTY CLERK

By_____
Deputy

Dated_____

CITY ENGINEER AND
SUPERINTENDENT OF STREETS
MULTIPLE AGREEMENT

For Tract/Parcel Map No._____

THIS AGREEMENT, made and entered into _____, 19_____, by and between the CITY OF _____, State of California, acting by and through it's City Council, hereinafter called the CITY, and _____

_____
(Name)

_____

_____

_____
(Address)

_____
hereinafter called the SUBDIVIDER.

WITNESSETH:

FIRST: The SUBDIVIDER for and in consideration of the approval of the final map of that certain land division known as Tract No./Parcel Map No._____hereby agrees, at the SUBDIVIDER's own cost and expense, to furnish all labor, materials and equipment necessary to perform and complete, and within twenty-four (24) months from the date of filing of said map, to perform and complete in a good and workmanlike manner, for the CITY where applicable, the following improvement(s) and/or work checked below, to wit:

[ ] A 5-foot CHAIN LINK FENCE per latest revision of Standard Plan for Public Works Construction No. 600 at the rear and/or side of lots/parcels _____ (inclusive) adjacent to _____. The estimated cost of this work is the sum of _____

_____ dollars ($_____).

[ ] A COMBINATION MASONRY WALL AND CHAIN LINK FENCE per County Engineer Standard D-63 at the rear and/or side of lots/parcels_____ (inclusive) adjacent to _____.

The estimated cost of this work is the sum of _____

_____

_____ dollars ($_____).

[ ] A 5-foot MASONRY WALL per County Engineer Standard D-65 at the rear and/or side of lots/parcels _____ (inclusive) adjacent to _____

_____. The estimated cost of this work is the sum of _____

_____

_____ dollars ($_____).

[ ] CORRECTIVE GEOLOGIC IMPROVEMENTS. Said work shall be done under the provisions of applicable City Codes. The estimated cost of this work is the sum of_____

_____

_____ dollars ($_____).

[ ] DRAINAGE FACILITIES and appurtenances thereto. The estimated cost of this work is the sum of _____

_____ dollars ($_____).

[ ] SANITARY SEWERS and appurtenances thereto, under Private Contract No._____, in streets and/or rights of way. In addition, SUBDIVIDER hereby offers said improvement for dedication. The estimated cost of this work is the sum of_____

_____

_____ dollars ($ _____).

[ ] STORM DRAINS and appurtenances thereto under Private Drain No._____, in streets and/or rights of way. In addition, SUBDIVIDER hereby offers said improvement for dedication. The estimated cost of this work is the sum of_____

_____

_____ dollars ($_____).

[ ] Setting of SURVEY MONUMENTS and tie points and furnishing to the City Engineer tie notes for said points, according to the provisions of the applicable City Ordinance or Codes regulating division and mapping of land, and paying the surveyor or engineer of record or his authorized substitute for the work performed by him as provided for in Division 2 Chapter 4, Article 9, of Title 7 of the Government Code (the Subdivision Map Act). The estimated cost of this work is the sum of _____

_____

_____ dollars ($_____).

[ ] WATER SYSTEM FACILITIES including pump stations, water tanks, water mains, water wells, fire hydrants, and all other appurtenances thereto, in dedicated public streets, private streets and easements, in accordance with plans and specifications consistent with the design requirements and standard specifications governing the installation of water systems on file in the office of the City Engineer. The estimated cost of this work is the sum of _

_____

_____ dollars ($_____).

[ ] ROAD IMPROVEMENTS in accordance with the Road Plans for said land division filed in the office of the Superintendent of Streets and to do all work incidental thereto according to the Standard Specifications for Public Works Construction, as amended, which are hereby made a part of this agreement. The estimated cost of this work and improvements is the sum of _

_____

_____

_____ dollars ($_____).

[ ] STREET TREE IMPROVEMENTS in accordance with the Road Plans for said land division filed in the office of the Superintendent of Streets and to do all work incidental thereto according to the Standard Specifications for Public Works Construction, as amended, which are hereby made a part of this part of this agreement. The estimated cost of this work and improvements is the sum of _____

_____

_____ dollars ($_____).

[ ] _____

The estimated cost of this work is the sum of _____

_____

_____ dollars ($_____).

[ ] _____

The estimated cost of this work is the sum of _____

_____

_____ dollars ($_____).

The above-mentioned improvement(s) to be constructed within and without the boundaries of said land division according to plans and/or applicable standards on file in the office of the City Engineer, Superintendent of Streets and/or other city official as applicable and hereby made a part of this contract as fully as though set forth herein. That said work shall be done under the inspection of, and to the satisfaction of, the City Engineer, Superintendent of Streets, and/or other city official as applicable, and shall not be deemed completed until approved and accepted as completed by the CITY. The SUBDIVIDER, his/her contractor(s), representatives, and agents shall be responsible for the Operation, maintenance and repair of the above improvements until accepted by the City. Said acceptance of the improvement(s) shall also constitute acceptance of any offer of dedication contained herein.

SECOND: That the CITY shall not, nor shall any officer or employee thereof, be liable or responsible for any accident, loss or damage happening or occurring to the work specified in this agreement prior to the completion, approval, and/or acceptance of same; nor shall the CITY, nor any officer or employee thereof, be liable for any persons or property injured by reason of the nature of said work or by reason of the acts or omissions of the SUBDIVIDER, his agents or employees, in performance of said work. All of said liabilities shall be assumed by the SUBDIVIDER. The SUBDIVIDER further agrees to indemnify, defend and save harmless the CITY, its agents, officers and employees from and against any and all liability, expense, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the SUBDIVIDER's operations, or its services hereunder, including any workers' compensation suits, liability, or expense, arising from or connected with services by any person pursuant to this agreement, or arising out of the use of any patent or patented article in the construction of said work.

THIRD: The SUBDIVIDER hereby grants to the CITY, the Surety upon any Bond, the financial institution of any improvement security, and to the agents, employees, and contractor of the irrevocable permission to enter upon the lands of the subject land division for the purpose of completing the

improvement. This permission shall terminate in the event that the SUBDIVIDER, financial institution, or the Surety has completed the work within the time specified or any extension thereof granted by the CITY.

FOURTH: It is further agreed that the SUBDIVIDER will at all times from the approval of said land division to the completion and acceptance of said work or improvements by the CITY, give good and adequate warning of each and every dangerous condition caused by the construction of said improvements and will protect the traveling public therefrom.

FIFTH: It is further agreed that the SUBDIVIDER shall have such control of the ground/area reserved for the installation of such work, and the streets in which they are to be placed, as is necessary to allow him to carry out this agreement.

SIXTH: The SUBDIVIDER hereby agrees to pay for the inspection of such work and improvements as may be required by the City Engineer, Superintendent of Streets, and/or other city official.

SEVENTH: The SUBDIVIDER shall give notice to the City Engineer, Superintendent of Streets, and/or other city official at least 24 hours before beginning any work and shall furnish said officials all reasonable facilities for obtaining full information respecting the progress and manner of work.

EIGHTH: The SUBDIVIDER agrees to grant to the CITY such easements as are necessary for the upkeep and maintenance by the CITY of the improvements agreed to be constructed herein.

NINTH: The SUBDIVIDER shall perform any changes or alterations in the construction and installation of such improvements required by the CITY, provided that all such changes or alterations do not exceed ten percent of the original total estimated cost of such improvements. Said cost to be borne by the SUBDIVIDER.

TENTH: The SUBDIVIDER shall guarantee such improvements for a period of one year following the completion by the SUBDIVIDER and acceptance by the CITY against any defective work or labor done, or defective materials furnished, in the performance of this agreement by the SUBDIVIDER.

ELEVENTH: The SUBDIVIDER hereby agrees that all work on any city highway, which existed prior to the filing of said map, shall be completed in accordance with the terms and provisions of applicable City Ordinance or Codes. Said Ordinance or Code requires, in part, that once work is commenced, it shall be prosecuted in a diligent and workmanlike manner to completion. If the CITY determines that the SUBDIVIDER has failed to perform as therein specified, the CITY reserves the right to exclude the SUBDIVIDER from the site and complete the work contemplated by city forces or by separate contract. The SUBDIVIDER further agrees to reimburse the CITY for all charges accruing as a result of such construction by city forces or separate contract.

TWELFTH: It is further agreed that the SUBDIVIDER has filed with the CITY, an acceptable and sufficient improvement security in an amount not less than the estimated cost of the work and improvements, as above specified, for the faithful performance of the terms and conditions and guarantees of this agreement and has also deposited with the CITY a good and sufficient payment security for labor and materials in the amount prescribed by law to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4, Division 3 of the Civil Code. If said improvement security or payment security becomes insufficient in the opinion of the CITY, the SUBDIVIDER agrees to renew said improvement security and/or payment security with good and sufficient improvement security and/or payment security within ten days after receiving demand therefor.

THIRTEENTH: If the SUBDIVIDER neglects, refuses, or fails to prosecute the work with such diligence as to insure its completion within the time specified, or within such extensions of said time as have been granted by the CITY, or if the SUBDIVIDER violates or neglects, refuses, or fails to perform satisfactorily any of the provisions of the plans and specifications, he shall be in default of this agreement and notice in writing of such default shall be served upon him and upon any Surety or financial institution in connection with this contract. The City Engineer, Superintendent of Streets, and/or other city official, shall have the power to terminate all rights of the SUBDIVIDER in such contract, but said termination shall not affect or terminate any of the rights of the CITY as against the SUBDIVIDER, financial institution, or

surety then existing or which thereafter accrue because of such default. The determination by the CITY of the question as to whether any of the terms of the contract or specifications have been violated, or have not been performed satisfactorily, shall be conclusive upon the SUBDIVIDER, his Surety, and any and all other parties who may have any interest in the contract or any portion thereof. The foregoing provisions of this section shall be in addition to all other rights and remedies available to the CITY under law.

FOURTEENTH: In case suit is brought upon this contract, the SUBDIVIDER hereby agrees to pay to the CITY reasonable attorney's fees to be fixed by the Court.

FIFTEENTH: It is further agreed by and between the parties hereto, including the Surety or Sureties on any Bond attached to this contract or the financial institution guaranteeing the improvement security, that in the event it is deemed necessary by the CITY to extend the time of completion of the work contemplated to be done under this contract, said extension may be granted by the CITY either at its own option or upon request of the SUBDIVIDER, and shall in no way affect the validity of this contract or release the Surety or Sureties on any Bond attached hereto or the financial institution guaranteeing the improvement security. SUBDIVIDER further agrees to maintain said improvement security and payment security in full force and effect during the terms of this agreement, including any extensions of time as may be granted therein.

SIXTEENTH: Before the SUBDIVIDER files the final sanitary sewer plans, under conditions approved by the City Engineer, the SUBDIVIDER may file preliminary sanitary sewer plans. Such preliminary plans, after approval by the City Engineer, may be submitted to meet the requirements for clearance of the final map. The SUBDIVIDER agrees to make such changes in the preliminary sanitary sewer plans as may be required by the City Engineer and to replace said preliminary plans with final sanitary sewer plans, approved by the City Engineer, before the SUBDIVIDER can apply for a construction/inspection permit.

SEVENTEENTH: It is further agreed by and between the parties hereto that this contract firmly binds the parties, their heirs, executors, administrators, successors or assignees, jointly and severally.

IN WITNESS there by, SUBDIVIDER has affixed his/her name and seal.

(Seal)

By _____

By _____

Note: All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgement jurats.)

Received on behalf of the
City of _____
by the City Engineer

By _____
Deputy

Date: _____

Approved as to form
CITY ATTORNEY

By _____
Deputy

SAMPLE IRREVOCABLE STANDBY LETTER OF CREDIT FOR IMPROVEMENTS
Note: This to be prepared on Bank or Saving and Loan Stationary.

DATE _____

APPLICANT/DEPOSITOR:

NAME: _____

ADDRESS: _____

_____

Phone Number_____

BENEFICIARY:
COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
900 SOUTH FREMONT AVENUE
ALHAMBRA, CA 91803-1331
ATTENTION FISCAL DIVISION CHIEF
EXPRIATION DATE _____

SUBJECT: Irrevocable Standby Letter of Credit Number _____

For Tract/Parcel Map No._____

Gentlemen:

Please consider this letter an instrument of credit pledging that _____ Dollars ($ _____) are deposited by _____ and guaranteed for payment for improvement securities on Tract/Parcel Map No. _____. In compliance with Section No. 66499 of the Government Code, we are regulated by the Federal or State Government, and agree that the funds designated by this instrument shall become a trust fund for the purpose set forth in this instrument.

AMOUNTS REQUIRED FOR FILING OF TRACT/PARCEL MAP NO. _____

Improvement	Faithful Performance Amount	Labor and Materials Amount
_____	$ _____	$ _____
_____	$ _____	$ _____
_____	$ _____	$ _____
_____	$ _____	$ _____

It is a condition of this letter of credit that it shall be deemed to be automatically extended without amendment for one (1) year from the present or any future expiration date hereof. Unless at least sixty (60) days prior to any such expiration date we shall notify the Los Angeles County Department of Public Works, Fiscal Division, P. O. Box 1460, Alhambra, CA 91802-1460, by registered letter that we elect not to consider this letter of credit renewed for such additional one (1) year period. Notice hereunder shall be deemed to have been given when received by you. Upon receipt of such notice you may draw on said letter of credit.

We understand that we must honor a request demand to draw against this letter of credit from the Department of Public Works in the event the depositor does not satisfy the Department of Public Works' request to replace the Letter of Credit with an instrument to the satisfaction of the County of Los Angeles.

The County's written statement noting the default in completing the improvement, signed by the Fiscal Division Chief of the Department of Public Works that the amount of this draft or a portion thereof is due and payable in accordance with the terms of the agreement.

(Bank or Savings and Loan Association)

By _____
President

By _____
Secretary

ALL SIGNATURES MUST BE NOTARIZED
ATTACH PROPER ACKNOWLEDGEMENTS

SAMPLE IRREVOCABLE STANDBY LETTER OF CREDIT FOR TAXES

Note: This is to be prepared on Bank or Savings and Loan Stationery.

Date _____

APPLICANT/DEPOSITOR:

NAME: _____

ADDRESS: _____

_____

PHONE NUMBER _____

BENEFICIARY:
COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
900 SOUTH FREMONT AVENUE
ALHAMBRA, CA 91803-1331
ATTENTION FISCAL DIVISION CHIEF
EXPIRATION DATE _____

SUBJECT: Irrevocable standby Letter of Credit Number _____

For Tract/Parcel Map No._____

Gentlemen:

Please consider this letter an instrument of credit pledging that $ _____ is deposited by _____ and guaranteed for payment of taxes on Tract/Parcel Map No. _____. In compliance with Section 66499 of the Government Code, we are regulated by the Federal or State Government, and agree that the funds designated by this instrument shall become a trust fund for the purpose set forth in this instrument.

"It is a condition of this Instrument of credit that it shall be deemed to be automatically extended without amendment for one (1) year from the present or any future expiration date hereof. Unless at least sixty (60) days prior to any such expiration date we shall notify the Los Angeles County Department of Public Works, Fiscal Division, P. O. Box 1460, Alhambra, CA 91802-1460, by registered letter that we elect not to consider this letter of credit renewed for such additional one (1) year period. Notice hereunder shall be deemed to have been given when received by you. Upon receipt of such notice you may draw on said "Instrument of credit."

We understand that we must honor a request demand to draw against this letter of credit from the Department of Public Works in the event the depositor does not satisfy the Department of Public Works' request to replace the Letter of Credit with an instrument to the satisfaction of the County of Los Angeles.

The County's written statement noting the default in payment of taxes, signed by the Fiscal Division Chief of the Department of Public Works, that amount of this draft or a portion thereof is due and payable in accordance with the terms of the agreement.

(Bank or Savings and Loan Association)

By _____
President

By _____
Secretary

Note: All signatures must be notarized.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

RECEIPT FOR DEPOSIT OF IMPROVEMENT SECURITY

Date_____

Tract/Parcel Map No._____

Depositor _____ Phone (____) _____

Address _____ _____ Zip_____

Deposit For:		Faithful Performance	Labor and Materials
Storm Drains/Drainage	(V09-7724)	_____	_____
Water System	(V09-7724)	_____	_____
Sanitary Sewer	(V09-7724)	_____	_____
Private Park Facilities	(V09-7724)	_____	_____
Fence/Wall	(V09-7724)	_____	_____
Geologic Improvements	(V09-7724)	_____	_____
Paving	(V09-7724)	_____	_____
Standpipe	(V09-7724)	_____	_____
Street Trees	(TF2-7769)	_____	_____
Road Improvements	(TF2-7704)	_____	_____
Road Inspections	(TF2-7704)	_____	_____
Monuments	(V09-7724)	_____	_____
Street Tree Inspection	(TF2-7704)	_____	_____
Pre-Final Plan Check For	(TF2-7704)	_____	_____
_____		_____	_____
Total		_____	

Financial Institution _____

Address _____

_____ Zip _____

C / D No. _____ Letter of Credit No. _____

Passbook No. _____ Cash Dr. No. _____

Dated _____ Other _____

Original-File
Copy-Cashier/Accounting
Fund

Note:TF2 = Road Guarantee Fund
V09 = County Engineer Trust

COUNTY OF LOS ANGELES
DEPUTY CLERK OF THE BOARD OF SUPERVISORS
PUBLIC WORKS DEPARTMENT
LAND DEVELOPMENT DIVISION

RECEIPT FOR DEPOSIT OF TAX SECURITY

[ ] = REGULAR Date _____

[ ] = SUPPLEMENTAL Tract/Parcel Map No._____

Depositor _____ Phone _____

Address _____

_____ Zip _____

Deposit For Taxes: $ _____

Financial Institution _____

Address _____

_____ Zip _____

C\D No. _____ Letter of Credit No._____

Passbook No. _____ Cash DR. No. _____

Dated _____ Other _____

Original - File
Copy - Cashier/Accounting
Copy - Assessor's Office

S A M P L E

(Financial Institution Letterhead)

IRREVOCABLE LETTER OF CREDIT NO. _____

Place and Date of Issue: _____

Amount: _____
(Thousand and 00/100)
United States Dollars

Applicant: _____

Beneficiary: Department of Public Works (DPW)
County of Los Angeles
900 South Fremont Avenue
Alhambra, CA 91803-1331
Attention: Fiscal Division Chief

Expiration Date: _____

Reference Number _____ (specify contract or agreement number) _____

Ladies and Gentlemen:

By order of _____ (applicant) _____, we are instructed to open irrevocable Letter of Credit in your favor for U.S. $_____ (amount) _____.

Documents Required:

We undertake that drawing under this Letter of Credit will be honored upon presentation of the below document drawn on _____ (Financial Institution) _____ at _____ (address) _____. Partial drawings on this Letter of Credit by the beneficiary are permitted.

Any claims under this letter shall be presented in the following manner:

The County's written statement signed by the Fiscal Division Chief of the Department of Public Works that the amount of this draft or a portion thereof is due and payable.

The above statement will be all that is required to certify that the amount set forth under _____ (Financial Institution) _____ Letter of Credit Number _____ dated this date or any part thereof is due and payable to you.

(Note: The expiration date shown must be the one (1) year minimum)

Automatic Extension:

It is a condition of this Letter of Credit that it shall be deemed to be automatically extended without amendment for one (1) year from the present or any future expiration date hereof, unless at least ninety (90) days prior to any such expiration date we shall notify the Department of Public Works Fiscal Division Chief by registered letter that we elect not to consider this Letter of Credit renewed for such additional one (1) year period. Notice hereunder shall be deemed to have been given when receipt is acknowledged by the Department of Public Works Fiscal Division Chief or a person acting in such capacity. Upon receipt of such notice you may draw on said Letter of Credit.

This Letter of Credit may be released in whole or in part at any time by the County of Los Angeles upon our receipt of a written notice signed by the Fiscal Division Chief.

(Authorized Signature)
(Authorized Counter Signature)
(Notarization)

(Attach a statement signed by a corporate officer certifying that the person signing this Letter of Credit is authorized to sign on behalf of the financial institution.)

CHAPTER 14

DRAFT

GRADING PLAN CHECK

Grading plans are generally checked and approved by Building and Safety/Land Development Division and grading permits are then issued by the appropriate Building and Safety District Office. Chapter 70 of Title 26 of the Los Angeles County Code (Building Code) governs the process for grading permit approval. It states "A person shall not perform any grading without first obtaining a grading permit to do so from the building official. A separate permit shall be obtained for each site." To obtain a grading permit, the applicant shall first file an application in writing on a form furnished for that purpose (see copy on Pages 14-14 and 14-15.) The application shall be accompanied with a set of plans and reports as required by the building official.

A. Application Submittals

All applications and related materials may be submitted to the Land Development Processing Center in Alhambra or to any of the district offices or contract city offices served by Building and Safety Division. At the time of initial submittal, the grading plan check fee, as described in Item B below, is collected and a grading plan check (GPC) number is issued. Only Building and Safety Division Offices can collect grading plan check fees and issue GPC numbers. If the applicant initially submits his application to the Building and Safety/Land Development Division Processing Center, he or she must, after completing the application form, take it to the Building and Safety/Land Development Division Public Counter on the third floor to pay the fee and obtain a payment validation that contains the GPC number.

If the project is within a contract city, the application must be submitted to that city's Building and Safety Office. The location of these offices, their telephone numbers and hours of operation are presented on Page 14-11. The applicant and fee submittal locations for development plans and maps are shown on Page 14-12 as a supplement to the Building and Safety Division Offices shown on the previous page. The basic requirements for submitting grading plans are shown on the form on Page 14-13. This form is completed at the time of the initial plan submittal at the processing center by the processing center personnel. If the materials are not complete, the materials are returned along with the completed form. A copy of both sides of the permit application form is shown on Pages 14-14 and 14-15. It should be noted that each Building and Safety Division Office issues grading permits.

If it is determined by the District Building and Safety Engineer that the proposed project grading is "Small and Unimportant," the District Engineer has the authority to issue the grading plan approval at the District Office once the plan check fees in Item B have been paid. The rest of the procedures presented in this Chapter are not followed.

Instead, the procedures for issuing a grading permit can proceed. It will be the District Engineer's responsibility to require any other documentation normally required for grading. The definition of "Small and Unimportant Work" is presented on Page 70.04 of the Los Angeles County Building Code Manual. A copy is on Page 14-16.

Upon acceptance of the grading plan check submittal materials to be reviewed through the Land Development Processing Center, the applicant must complete the post card form B in accordance with the requirements on Pages 14-17 through 14-20.

If a project is within a contract city and a drainage concept and hydrology study is required, the procedure on Page 14-21 must be followed and the form on Page 14-22 must be completed at the time the information is submitted.

B. Payment of Fees

The grading plan check fee schedule for projects within county jurisdiction are established in the latest Chapter 3 of Los Angeles County Code Title 26. There are two basic fees and the checking fee is based on the larger of either excavation or fill yardage handled. This must include over excavated and

recompacted materials handled as well. The other fee is the Land Development Management Agency surcharge fee.

If the project is in a contract city, the applicant must check with the city to determine the fees that the city charges. The payment must be submitted at the time of the application. The LDMA surcharge is not applicable to Contract Cities. The County provides no LDMA services to Contract City development projects.

C. Review Procedures

Once the application and necessary supporting data are accepted by either the Building and Safety/Land Development Division Processing Center or Building and Safety District Office, the materials are sent to the Drainage and Grading Section for review of both grading and drainage and to Materials Engineering Division for geotechnical evaluation as directed by post card form B. The review procedures are as follows:

1. Drainage and Grading Section

   a. Grading Review

      The grading review consists of verifying that the plans meet the requirements of Chapters 3 and 70 and other related provisions of Title 26 as described in Chapter 30 of this Manual and is in conformance with the Zoning Requirements. The Regional Planning Commission has the power to require Conditional Use Permits for certain uses including grading. See Chapter 11 of this Manual for which types of development require a Conditional Use Permit. Exhibit A of the Conditional Use Permit usually contains grading limitations. A copy of Exhibit "A" is required before the grading plans can be approved. The grading plan correction sheets are presented on Pages 14-27 through 14-39. The grading plan checker may make a determination that either engineering geology and/or geotechnical engineering review may be required. The applicant must send the material to them using post card form B.

   b. Drainage Review

      The drainage review consists of determining that the drainage meets the requirements of Chapter 3 of the Building Code and that the plan is consistent with the hydrology study (see Chapter 34) and other drainage improvement plans. (See Chapter 36.)

      If an extensive drainage system is required, it first must be determined if a private drain will be needed. Second, it must be determined if the drainage system will be maintained by the property owner or by a government agency. The conditions that govern this decision are in Item I on Page 36-1, Chapter 36. If a private drain is required, the procedures in Chapter 18 must be followed. The "Grading Plan Drainage Review Notes," if needed, are sent to the design engineer and the applicant. A copy is on Page 14-40. The "Grading Plan Drainage Review" check list is also sent to the engineer. A copy is shown on Pages 14-41 and 14-42. If a drainage concept, flood hazard study or hydrology study is required, consult Chapters 32, 33 and 34 of this Manual for submittal requirements and minimum standards. The results of the hydrology study review if approved, are presented on the form on Page 14-44 and if not approved, on Pages 14-45 and 14-46. The applicant must send the material separately using post card form B.

   c. Irrigation and Landscaping

      All proposed landscaping shall be done in compliance with Chapters 70 and 71 of the Los Angeles County Building Code.

d. Temporary Erosion Control Measures

If grading operations occur between November 1 and April 15 of the following year, protective measures, including desisting basins or other temporary drainage or erosion control measures, are required to be installed and kept in working order during this period. Plans must be submitted to Drainage and Grading Section for approval. (See Chapter 31 of this Manual for minimum standards.) If the submitted temporary erosion control plans are not submitted with the grading plans but instead submitted separately, plan checking fees equal in amount to 10 percent of the original grading permit fee will be required. For grading already underway, these plans must be submitted by October 1. A request for additional information or plan changes is shown on Pages 14-50, 14-51, and 14-52. The required plan notes are shown on Page 14-50.

e. Subdivision Grading

When a grading plan is part of the subdivision process or a tentative tract or parcel map, the Grading Unit makes a report for the Department of Regional Planning as to conditions needed to approve the map. (See Chapter 11 of this Manual.) Where grading is required, one or more of the following items, if applicable, may be required by the grading unit prior to obtaining clearance for a map:

1/ Grading plans must be submitted and approved prior to approval of the final Subdivision map. If submitted after the recordation of the final subdivision map, a grading plan will have to be prepared for each parcel or lot. (See Item f below.)

2/ Geotechnical reports, if required, must be submitted and approved by the Materials Engineering Division and must incorporate guidelines of Chapter 49 of this Manual. The reports, which must be based upon adequate data and exploration, shall include (1) description of any soils or geologic condition(s) which, if not corrected, might lead to structural damage or slope failure; and (2) recommended action to prevent possible structural damage or slope failure. Soil expansion index tests, when required, shall be done in accordance with the procedures in Chapter 29 of Title 26 (UBC Standard No. 29-2).

3/ The grading must contain nearly the same pad elevations and contours as the tentative subdivision map. If the deviations are significant to change the esthetics of the development, a new tentative map will have to be approved by the Department of Regional Planning in accordance with the procedures in Chapter 11 of this Manual.

In hillside areas, deviations exceeding three (3) feet will be considered sufficient to affect the site esthetics. In other areas, a deviation exceeding one foot will be considered sufficient. The plan checker should consult with the Section Head when there is excessive deviations from the tentative maps.

4/ Tentative subdivision maps usually require that lot lines must be at the top of slopes, along drainage terraces, or at similar locations acceptable for providing access for slope maintenance by the affected property owner or slope maintenance district.

Should the final grading design modify the final subdivision map contours, lot lines will have to be adjusted to meet the original tentative subdivision map criteria. A major revision will require a review of the existing tentative subdivision map conditions and the State and County Codes to determine if the revised grading plan and final map are still in conformance. If there is any doubt, a revised tentative subdivision map will be required.

5/ If the conditions of approval require a fire access road, the Forester and Fire Warden must approve the plans showing the access road. (See Chapter 30 of this Manual for minimum standards and Form on Page 14-85.) The proposed pavement section should be checked by the Road Unit as being adequate to support Fire Equipment.

6/ Because of the many different plans involved in a subdivision, it is imperative that the road, storm drain, sewer, water and grading plans be coordinated by the developer and that there is adequate cross-referencing so that errors and omissions are avoided.

The Road, Storm Drain and Grading Plans must be consistant with the approved drainage concept and the hydrology study. The grading plan cannot be approved prior to:

a/ Drainage Concepts and Hydrology Study have been approved.

b/ The geotechnical information and design recommendations have been approved and incorporated into the plan.

c/ The storm drain plans have been approved or in "direct" check.

d/ The road plans have been essentially approved.

e/ The sewer system plans have been essentially approved.

f/ The water distribution system has been essentially approved.

f. Single Lot Grading

Approval of the grading plan for a single lot is usually a ministerial duty. However the following items must be also considered:

1/ Zoning requirements must be reviewed. This includes any Conditional Use Permit, zone change and provisions of the State and County Codes. The conditions of tentative map approval cannot be enforced if the subdivision has been recorded and there is no agreement, such as approved grading plans to perform specific grading. The plan checker, as part of the review process, must determine the zoning requirements by reviewing the Codes and the Subdivision Files. Personnel in the Subdivision Section can assist in determining if there are any conditions that apply to grading. If there is a Conditional Use Permit for the site, that document may contain specific grading limitations which must be enforced. It the requirements are not clear, the Department of Regional Planning can be requested to approve the grading contours and pad elevations.

2/ Drainage from single lots must be such that flows either enter an existing drainage system or that they are passed on to adjacent property in the same manner before development. (See Chapter 30 of this Manual.)

2. Road, Sewer and Water Section

If there are any paving requirements mandated by tentative map conditions, such as the paving of fire fighting easement, driveways for flag lots, private and future streets, the grading plan shall contain the design requirements and the Road Plan Subunit should be consulted as to the adequacy of the pavement design in meeting County Code requirements. (See Chapter 30 of this Manual).

3. Materials Engineering Division

Upon receipt in the Materials Engineering Division, the plans and/or geotechnical reports are logged in by the Section Clerk and sent to the appropriate Geology and/or Geotechnical Engineering Review Section/Unit for review, as directed by mailing Post Card Form B (see Chapter 14 of this Manual for instructions) or as warranted by the submittal contents.

Geotechnical reports and plans are reviewed by Geotechnical Development Review to determine that they meet Code and other government regulations and that substantiating geotechnical information is provided, such as outlined in Chapter 49 of this Manual. Post Card Form B and review sheet of the results of the review are sent to the Processing Center, Building and Safety/Land Development Division.

The reviewing geotechnical engineer and geologist must require sufficient geotechnical data to substantiate that slope stability analyses, settlement analyses, etc., are provided to assure a safe building site with a safe access on each lot and that the proposed grading will be stable and will not adversely affect offsite property.

If the reviewing engineering geologist or the geotechnical engineer determine that their review is not required or necessary, "Review not necessary" will be indicated on Post Card Form B that is returned to the Processing Center.

When both engineering geology and geotechnical engineering reviews are required, the reviews are coordinated. During the review process either reviewer may contact the developer's geotechnical consultants verbally or by review sheets requesting additional information. Both reviewers must be aware of each other's actions by sending copies of their review sheet to the reviewer in the other unit. It should be noted that a considerable time can be saved in approving the plan, if the applicant meets the recheck requirements noted on geotechnical review sheets.

When both reviewers are satisfied, each will issue a review sheet approving the project plans. The geologist processes and coordinates review sheets. Reviews are then sent to the Processing Center with the Form B Post Cards which will be mailed to the addresses noted on them. Copies of the review sheets are mailed directly to the geotechnical consultants, Drainage and Grading Section in the Building and Safety/Land Development Division, and the District Building and Safety Office.

D. Connection of Privately Maintained Drainage Facilities to Department Maintained Facilities

Minor drainage improvements that will be privately maintained as noted in Item C. 1. b on Page 14-2 require a permit from the Department of Public Works if they are to encroach on or be connected to an existing Flood Control District or Department Maintained facility.

The following are typical modifications that require permits from Permits and Subdivisions Section of Construction Division (telephone (818) 458-3129):

1. All connections to Los Angeles County Flood Control District (LAFCD) facilities that do not require right-of-way from the Department for access. This includes District Owned Channels and Drains, Private Drains, Miscellaneous Transfer Drains, Bond Issue Drains, Drainage District Improvements, etc.

2. All re-alignment of main line storm drains and laterals noted in Item 1 above that are located in street right-of-way.

3. All catch basin relocations and modifications to Department owned or maintained facilities in street right-of-way.

The guidelines for obtaining a permit to perform the above described work are on Pages 14-54 through 14-60. These guidelines contain data submittal requirements and a fee schedule. A copy of the permit application is on Page 14-61.

The following work also requires approval from Mapping and Property Management Division (Telephone (818) 458-7039):

1. Any construction requiring an easement from the Flood Control District or the County.

2. Any construction over a Flood Control or County easement.

3. Temporary discharge of water to a Flood Control District or Department Maintained facility through a temporary drain such as a fire hose.

4. Any type of use of a Flood Control District of Department controlled facility or easement.

E. Resubmittals

Additional information, addendum geotechnical reports and revised plans must be submitted in the same manner that the original information was submitted. (See Item A on Page 14-1.)

It will save time in the geotechnical processing when plans, prior review sheets, and reports are submitted together for reviews by the Materials Engineering Division.

It is very important that work being reviewed by a private consultant be noted on this card and that the counter personnel are advised. For further information, contact the program coordinator at (818) 458-4930.

F. Approval by Land Development Division

Approval of any plan or map is a serious matter. Should the development fail to perform as intended, all parties will be subject to expensive litigation. Typical drainage malpractice litigation is presented in Chapter 55 of this Manual. All parties should consider these errors before approving any grading plans. Before Drainage and Grading Section can approve the grading plan, clearance must be received from all reviewing parties. (See Item G below for a list of some of the agencies.) In all cases, a receipt or a waiver from the Department of Fish and Game must be provided prior to plan approval. The clearance from other agencies usually consists of a stamp on the grading plan/noting approval or a note.

Approval from the Materials Engineering Division requires a review sheet noting approval. The Materials Engineering Division generally requires that all the geotechnical consultants' recommendations be shown on the plans and that two sets of plans with geotechnical consultants' original signatures be provided to verify approval. The geotechnical engineer must also stamp or seal the plans and note the expiration date of his/her license. (See Chapter 61 of this Manual.) One set of the signed plans is filed in the Materials Engineering Division and the other set which accompanies the review sheet is sent to the Drainage and Grading Section.

Once clearances from all reviewing parties are received, the grading plan checker requires three (3) sets of plans from the applicant if the grading is for a single lot and five (5) sets if the grading is for a subdivision. Each sheet of these sets of plans are stamped "Approved" with the signature of the plan checker.

A packet containing two sets of the approved grading plans, offsite grading letters and covenants, and approvals and supporting data from the Materials Engineering Division including review sheets and reports are sent to the Building and Safety Division District Office responsible for issuing the grading permit and inspecting the work. One set of plans is retained in the file and the other goes to the permit

applicant. A copy of the grading plan and drainage related documents are kept in Land Development Division (except for single lots). The additional two stamped sets required for subdivision grading are distributed to the Engineer and the Road Plan Check Subunit of Road Sewer and Water Section. The Engineer, however, can always request additional sets of stamped plans by submitting sets to be stamped. The copy in the Road Plan Check Subunit is retained until subdivision recordation.

"As-Graded" geologic maps and final geotechnical reports are commonly required to be submitted to Materials Engineering Division for their review and approval prior to rough grading approval. These reports and maps are kept in the project files permanently for future reference.

"As-Built" grading plans will be required prior to approval of final grading to replace the approved set of plans and maps kept permanently in the Grading files. At this time the grading plans are discarded as they are replaced by the "As Built" grading plans.

G. Permits from Other Agencies

Sometimes a proposed development may encroach upon the jurisdiction of other agencies. Some are within the Department of Public Works. Permits must be obtained from the affected agencies before construction or grading permits can be issued. The California Permit Handbook contains general guidelines regarding the need for a permit from their agency and how to obtain the required permits. (See Item E, Page 50-9 of Chapter 50 of this Manual regarding the purchase of this manual.) A copy of this Manual is available in the Building and Safety/Land Development Division Administration Files.

The following agencies can require permits for development in Los Angeles County (See Chapter 50 of this Manual.):

1. County of Los Angeles

    a. Department of Public Works

        1/ Permits and Subdivisions Section - Construction Division

            a/ All connections to Los Angeles County Flood Control District (LACFCD) facilities that do not require right-of-way.

            b/ All re-alignment of main line and lateral storm drains with road right-of-way.

            c/ All relocations and modifications of catch basins that drain to LACFCD facilities that are in road right-of-way.

            d/ All road excavation permits. This includes repair, extension and relocation of existing utilities, including water mains, sewer lines, storm drains, modification of curb, gutter and sidewalks, and installation of driveways.

            e/ All connection to existing storm drains owned by LACFCD including Private Drains (PD) and Miscellaneous Transfer Drains (MTD).

        2/ Permits Section - Mapping and Property Management Division

            a/ Any construction over an LACFCD easement.

            b/ Temporary discharge of water to a LACFCD facility through a temporary drain, such as a fire hose, Illegal discharges will be stopped.

            c/ Any type of use of LACFCD facilities or rights-of-way.

d/ Any connection to LACFCD facilities that require acquisition of right-of-way from the District.

b. Forester and Fire Warden - Driveway Requirements

Whenever a site for a single family dwelling is not served by public access in two directions, special driveway requirements are required. Also all other developments must meet special fire requirements. A form notifying the applicant that these requirements must be met is on Page 14-85. Fire Department requirements are discussed in Item III.J on Page 30-7 in Chapter 30 of this Manual. If the project is a new subdivision, the driveways and fire access road must be shown on the plans and approval by the Fire Department must be obtained prior to grading plan approval. If the project is a single lot development, the requirements of the Fire Department need not be obtained until prior to building plan approval. (See Items C.1.e and f beginning on Page 14-3.)

c. Department of Regional Planning - Oak Tree Permit

When a project requires the removal of or impact to any oak trees eight inches or larger in diameter, within the unincorporated Los Angeles County territory, an oak tree permit will be required. The permit application is obtained from the Department of Regional Planning which issue the permit. All inquiries should be directed to the Los Angeles County Department of Regional Planning, Room 1390, Hall of Records, 320 West Temple Street, Los Angeles, California 90012. Telephone (213) 974-6411. See Chapter 30 of this manual for development requirements.

2. State Agencies

a. California Coastal Commission - Coastal Development Permit.

Required for most development activities in the Coastal Zone as defined by the Coastal Act. Copies of the required forms and procedures for obtaining a permit are on pages 14-62 through 14-81. However, it should be noted that the attachment may become superseded and should not be used without consulting first with the Coastal Commission staff.

b. Department of Fish and Game

A permit is required for all activities that change the natural state of any land, river, stream or lake. It generally applies to all work undertaken within the mean high-water mark of a body of water containing fish or wildlife resources or any land supporting wildlife. Otherwise a waiver must be obtained before plans can be approved.

There is also revenue tax for all submitted environmental documents in areas where there may be wildlife resources. A copy of the fee schedule for stream is on Page 14-82 and a copy of the permit application is on Page 14-83. These are to be used for reference purposes only. Contact this agency for current information.

c. Department of Housing and Community Development - Division of Codes and Standards -Permit to Construct.

This is required for construction or expansion of mobilehome parks, recreational trailer parks and campgrounds.

d. Department of Parks and Recreation - Right-of-Way.

This permit is required for access across state park property including public and private utility easements for pipelines or roads.

e. Department of Transportation (Caltrans) - Encroachment Permit

This permit is required for work within a state highway right-of-way and for access to and from a state highway. This applies to anything placed in, under, or over any portion of the highway and any driveway or road connected to a state highway.

f. Department of Water Resources - Division of Safety of Dams - Approval of Plans and Specifications and Certificate of Approval to Construct or Enlarge a Dam or Reservoir.

This permit is required for construction or enlargement of a dam under the jurisdiction of the State. (See Chapter 38 of this Manual.)

3. Federal Agencies

United States Army Corps of Engineers - "404" Permit.

This permit is required for dredging or filling lakes, streams, tidelands, marshes, or low-lying areas behind dikes along the coast. This also applies to dumping dredged material into the ocean. (See diagram on Page 14-84 regarding their jurisdiction and assistance, and also Chapter 50 of this Manual.) This is to be used for reference purposes only. Contact the Agency for current information.

The approval of the grading plans are not dependent upon the acquisition of the "404" permit. However, a copy of the permit must be presented before the grading permit can be granted. If the project is in an incorporated city, contact the city for its requirements. The diagram prepared by Planning Division on Page 14-86 shows the approximate length of time required to process a permit application by the listed agencies.

H. Statements and Grading Bond required prior to Issuance of Grading Permit

A statement signed by the owner acknowledging that a field engineer, soils engineer and geologist, when required, will be employed to perform the services required by Chapter 70 of Title 26, whenever approval of the plans and issuance of the permit are to be based on the condition that such professional persons be so employed. These acknowledgments shall be on a form furnished by the building official (see Page 14-87). The consultants will have to acknowledge that they have been employed by the owner (see Page 14-88) and must certify after grading completion that the work has been completed under their supervision (see Page 14-89). The Grading Security on Page 14-90 must also be submitted if the grading is greater than 1000 cubic yards. (See Section 7008 of Title 26 of County Code.)

The consultants utilized in a project as listed in the above noted forms must meet the professional qualification requirements noted in the Division II of the California Business and Professions Code. (See Chapter 61 and other Chapters in Part IV of this Manual.) The responsibilities of the consultants are defined in Chapter 70 of Title 26 of the Los Angeles County Code (Building Code). Title used in the forms are defined in Section 7002 of this Code.

I. Private Engineers Notice to Contractors

The following engineer's notice must be on all department plans before permits for construction or grading can be issued:

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

The existence and approximate location of underground utilities or structures shown on these plans were determined by a search of the available public records, to the best of our knowledge, there are no existing underground utilities or structures except as shown on this map/plan. The contractor is required to take due precautionary measures to protect the utilities or structures shown and any other utilities at the site. It shall be the contractors responsibility to notify the owners of the utilities or structures concerned before starting work.

The contractor shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property, that this requirement shall apply continuously and not be limited to normal working hours; and the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work in this project excepting for liability arising from the sole negligence of the owner or the engineer.

CIVIL ENGINEER R.E. NO._____ DATE _____APPLICATION AND FEE

DIRECTORY OF LOS ANGELES COUNTY BUILDING AND SAFETY DIVISION OFFICES

Unless specifically indicated, all offices are open 8:00 a.m. to Noon and 1:00 p.m. to 4:30 p.m., Monday through Friday except legal holidays.

CENTRAL OFFICE

(Mon.- Thurs. 7:00 a.m.-5:00 p.m., Closed Friday)

900 South Fremont Ave., 3rd Floor, Alhambra, Ca. 91803
Building Section - (818) 458-3173, Fax (818) 458-2861
Electrical Section - (818) 458-3180
Mechanical Section - (818) 458-3182

DISTRICT OFFICES

8 ANTELOPE VALLEY #6-499
335A East Ave. K-6
Lancaster, CA 93535
(805) 723-4440, Fax (805) 723-4435

4 BELLFLOWER #6-249
16600 Civic Center Drive, Suite 200
Bellflower, CA 90706
(213) 804-2588, Fax (213) 920-2125

9.1 CALABASAS/MALIBU #6-661
4111 N. Las Virgenes Road
Calabasas, CA 91302
(818) 880-4150, Fax (818) 880-6279

13 CARSON (M-Th, 7-6) #6-242
(Closed FRIDAY)
701 E. Carson Street
Carson, CA 90745
(213) 775-7261, (213) 830-7600
Fax (213) 513-6243

6 EAST LOS ANGELES #6-027
5119 E. Beverly Blvd.
Los Angeles, CA 90022
(213) 260-3450, Fax (213) 267-4422

1 FIRESTONE #6-126
7807 S. Compton Avenue
Los Angeles, CA 90001
(213) 586-6541, Fax (213) 586-6526

2 LA PUENTE #6-686
16005 E. Central Avenue
La Puente, CA 91744
(818) 961-9611, Fax (818) 961-8166

7 LENNOX #6-071
4353 W. Lennox Blvd.
Lennox, CA 90304
(213) 419-5651, Fax (213) 672-6791

12 LOMITA #6-110
24320 S. Narbonne Avenue
Lomita, CA 90717
(213) 534-3760, Fax (213) 530-5482

5 SAN GABRIEL VALLEY #6-615
125 S. Baldwin Avenue
Arcadia, CA 91007
(818) 574-0941, Fax (818) 446-4425

8.2 SANTA CLARITA #6-470
23757 Valencia Blvd.
Valencia, CA 91355
(818) 984-0610, (805) 253-7211
Fax (805) 253-7215

9 W. HOLLYWOOD (8-10) #6-016
(Unincorp. Area)
100 Universal City Plaza, MT4
Universal City, CA 91608
(818) 762-6284

Revised 7-1-91, PSL

CITY OFFICES

4.09 ARTESIA (8-9) #6-261
18747 Clarkdale Avenue
Artesia, CA 90701
(213) 865-6263

12.01 AVALON (Thu. 1-2) #6-104
215 Sumner Avenue
Avalon, CA 90704
(213) 510-1209

4.07 BELLFLOWER #6-249
16600 Civic Center Way, Suite 200
Bellflower, CA 90706
(213) 804-2588

5.01 BRADBURY (Tu, F 1-2) #6-576
600 Winston Street
Bradbury, CA 91010
(818) 358-3218

12.05 CARSON (M-Th, 7-6) #6-242
(Closed FRIDAY)
701 E. Carson Street
Carson, CA 90745
(213) 775-7261, (213) 830-7600

4.02 CERRITOS (8-5) #6-258
18125 Bloomfield Ave.
Cerritos, CA 90701
(213) 860-0311, Fax (213) 865-1944

6.01 COMMERCE #6-___
2535 Commerce Way
Commerce, CA 90040
(213) 887-4455, Fax (213) 726-6231

5.09 DUARTE (M-Th 7:30-5:30)
1600 Huntington Drive #6-139
Duarte, CA 91010
(818) 357-7931

4.03 HAWAIIAN GARDENS #6-072
21815 Pioneer Blvd.
Hawaiian Gardens, CA 90716
(213) 420-2641

2.03 INDUSTRY #6-686
16005 E. Central Avenue
La Puente, CA 91744
(818) 961-9611

5.06 IRWINDALE (8-11:30) #6-687
5050 N. Irwindale Avenue
Irwindale, CA 91706
(818) 962-3381

3.01 LA CANADA FLINTRIDGE (8-10) #6-637
1327 Foothill Blvd.
La Canada/Flintridge, CA 91011
(818) 790-8651

4.01 LAKEWOOD (8-5:15) #6-234
5050 N. Clark Avenue
Lakewood, CA 90712
(213) 866-9771, Fax (213) 866-0505

4.08 LA MIRADA (8-10) #6-287
13700 S. La Mirada Blvd.
La Mirada, CA 90638
(213) 943-0131

2.02 LA PUENTE #6-686
16005 E. Central Avenue
La Puente, CA 91744
(818) 961-9611

7.01 LAWNDALE (8-10) #6-231
14717 S. Burin Avenue
Lawndale, CA 90260
(213) 772-4191, (213) 973-4321

12.04 LOMITA #6-110
24320 S. Narbonne Avenue
Lomita, CA 90717
(213) 534-3760

12.02 ROLLING HILLS #6-110
24320 S. Narbonne Avenue
Lomita, CA 90717
(213) 534-3760

12.03 ROLLING HILL EST. #6-110
24320 S. Narbonne Avenue
Lomita, CA 90717
(213) 534-3760

4.05 SANTA FE SPRINGS #6-262 (8-4:30)
11710 E. Telegraph Road
Santa Fe Springs, CA 90670
(213) 868-0511, Fax (213) 868-7112

5.08 TEMPLE CITY (8-12) #6-038
9701 Las Tunas Drive
Temple City, Ca 91780
(818) 285-0468

9.02 WESTLAKE VILLAGE #6-661
4111 N. Las Virgenes Road
Calabasas, CA 91302
(818) 880-4150

14-11

SUBMITTAL LOCATIONS

In Incorporated Cities

For all building, grading and improvement plans and permits within an incorporated city, all applications and fees must be submitted at that city's Building and Safety office.

In Unincorporated County Areas:

All Building and Grading Plan permit applications and fees for plan check may be submitted either at the central (Headquarters) or district office.

All improvement (Road, Sewer, Water and Storm Drain) plan check applications and fees must be submitted at the Land Development Processing Center.

All improvement construction permit applications and fees must be submitted at the Construction Division public counter -- 8th floor of the headquarters building.

PUBLIC WORKS DEPARTMENT

LAND DEVELOPMENT DIVISION

GRADING PLAN SUBMITTAL

Tract/Parcel Map_____ Date _____

G.P.C._____ [ ]Plans Accepted

Engineer_____ [ ]Plans Rejected

Phone No._____

In order to expedite and properly process your submittal, the items listed below are necessary. It is our policy to review only complete submittals.

An Application for Grading Permit, filled out completely, must be submitted along with:

[ ] 1. Engineer's yardage estimate (showing all excavations and fills including all overexcavated and recompacted materials) on plans.

[ ] 2. Checking fee based on the estimate cut or fill yardage above. (See Schedule on Pages 14-17 and 14-18.)

[ ] 3. LDMA surcharge for unincorporated County areas only fee (for 1,000 cy and below, $50 fee, or for over 1,000 cy, $120 fee)

[ ] 4. Four (4) sets of legible Grading plans including

a) Signature stamp or seal and license expiration date of licensed Civil Engineer
b) a detailed vicinity map
c) existing and proposed contours
d) notes as required
e) typical details slope sections as required
f) Approval statement and original signatures of the geotechnical consultants, on each sheet of plans if Item 5 is required

[ ] 5. Three (3) sets of preliminary Soils/Geology report(s) for Grading plans showing compacted fills.

[ ] 6. Approved or direct check hydrology study.

[ ] 7. Copy of Exhibit A of the Conditional Use Permit. (If issued.)

ALL GRADING PLANS FOR SITES LOCATED IN CONTRACT CITIES MUST BE SUBMITTED AT THE CITY OFFICES OF BUILDING AND SAFETY DIVISION.

I hereby affirm that I have a certificate of consent to self insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab. C.)

Policy No. _____ Company _____

☐ Certified copy is hereby furnished.

☐ Certified copy is filed with the county building inspection department.

Date _____ Applicant _____

CERTIFICATE OF EXEMPTION FROM WORKERS' COMPENSATION INSURANCE

(This section need not be completed if the work involved by the permit is for one hundred dollars ($100) or less.)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws.

Date _____ Applicant _____

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked.

LICENSED CONTRACTORS DECLARATION

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

License Number _____ Lic. Class _____

Contractor _____ Date _____

☐ I am exempt from the licensing requirements as I am a licensed architect or a registered professional engineer acting in my professional capacity (Section 7051, Business and Professions Code).

Lic. or Reg. No. _____ Date _____

HOME OWNER-BUILDER DECLARATION

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Section 7031.5, Business and Professions Code):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work and the structure is not intended or offered for sale (Section 7044, Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Section 7044, Business and Professions Code).

CONSTRUCTION LENDING AGENCY

I hereby affirm that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C.).

Lender's Name _____

Lender's Address _____

I certify that I have read this application and state that the above information is correct. I agree to comply with all County ordinances and State laws relating to building construction, and hereby authorize representatives of this County to enter upon the above-mentioned property for inspection purposes.

_____
Signature of Permittee Date

14-14

20-0053 DPW 8/89

APPLICATION FOR GRADING PERMIT

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS BUILDING AND SAFETY

1

INSPECTION COPY

FOR APPLICANT TO FILL IN		
SITE ADDRESS		
LOT NUMBERS	BLOCK	
TRACT NUMBER		
OWNER		
MAIL ADDRESS		
CITY	TEL. NO.	
ENGINEER	STATE REG. NO.	
MAIL ADDRESS		
CITY	TEL. NO.	
GRADING CONTRACTOR	TEL. NO.	
ADDRESS		
PROPOSED USE OF GRADED SITE(S)		
CHECK IF SUPERVISED GRADING ☐		
SIGNATURE OF APPLICANT		
ADDRESS	TEL. NO.	
SURETY $ BOND	BOND NO.	
SURETY COMPANY		
DATE FILED	REC'D BY	
CASH DEPOSIT $	REC'D BY	DATE FILED
THIS IS A LIMITED TIME PERMIT		
ALL WORK AUTHORIZED MUST BE COMPLETED BY		
TIME LIMIT:		
EXTENDED TO:	BY:	
EXTENDED TO:	BY:	
P.C. Fee $	Permit Fee	
	Issuance Fee	
	Total Fee	

SITE ADDRESS			
LOCALITY			
NEAREST CROSS STREET			
DISTRICT NO.	MAP NO.	STATE HWY. YES ☐ NO ☐	PROCESSED BY
CUBIC YDS. HANDLED:			
USE ZONE	SPECIAL CONDITIONS		
FINAL DATE	BY		

VALIDATION

SEE REVERSE FOR EXPLANATORY LANGUAGE

INSPECTION NOTES:

INSPECTION RECORD

INITIAL GRD. PREP.	DATE	INSPECTOR'S SIGNATURE	PLANTING AND IRRIGATION	DATE	INSPECTOR'S SIGNATURE
COMPACTION REPORT REC'D.			SUP. ENGR'S FINAL CERT.		
SUP. ENGR'S CERT. REC'D.			SURETY BOND RELEASED		
ROUGH GRADING APPROVAL					

GEOLOGIC AND SOILS REPORTS FILED

	PREPARED BY	DATED	REC'D	APPR'D	REMARKS
GEOLOGY					
SOILS					

14-15

OWNER-BUILDER DECLARATION

I hereby affirm that I am exempt from the Contractor's License Law for the following reason *(Section 7031.5, Business and Professions Code): Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9) (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500).:*

☐ I, as owner of the property will do the work, and the structure is not intended or offered for sale.
(Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale.)

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project *(Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License Law).*

I am exempt under Sec. _____, B & P.C. for this reason _____

_____

Date _____

Owner _____

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION

BUILIDNG CODE MANUAL NO. 70.04

SMALL AND UNIMPORTANT WORK

Section 7005(b) requires all grading plans be prepared by a licensed Civil Engineer except when waived by the Building Official for small and unimportant work.

Proposed projects may be considered as small and unimportant work provided the following conditions are met:

1. Quantity of earth work involved is 1000 cubic yards or less.
2. Depth of either cut or fill is 10 feet or less.
3. Fills or areas of fill are not intended to be used to support structures for which a building permit is required.
4. The grading does not obstruct or alter a natural drainage course.
5. No drainage devices or structures are required for which a licensed Civil Engineer must be responsible for the design.
6. Toe of slope set back is maintained a minimum of 5 feet from the site boundary.
7. All other applicable provisions of the Building Code are followed.

Petitions to qualify proposed projects which do not meet the above criteria as "small and unimportant" should be referred to the District Engineer for consideration and decision.

APPROVED

DONALD L. WOLFE
Assistant Deputy Director

DLW:dg

B-O/DISKF3/BCM70.04

Supecedes BCM 70.19 dated 11/05/84

INSTRUCTIONS FOR NOTIFICATION POST CARD B

The following instructions have been prepared to assist both the applicant and application processing personnel in completing the notification Post Card B when plans are submitted at either the Land Development Processing Center or the Building and Safety District Offices. These offices will transmit the submittals to the Land Development Division Processing Center. Post Card A is used for other types of plan submittals and does not involve Building and Safety Division.

Attached is a sample Post Card B on which is circled the numbered instructions which follows:

Side 1 of Post Card

The following information is to be entered by the applicant:

1. Name and address of engineer to be notified when the plan check is completed.
2. Name and address of developer/owner to be notified when the plan check is completed.
3. Date of plan submittal.
4. Project address if there is no tract or parcel map number. For tract or parcel map enter the street name that the project takes access from and the nearest cross street. Do not accept the submittal without an address if it is to be sent for geology review.
5. Tract or parcel map number if there is one.
6. Grading plan or building plan check number, plus District Office number. (For example, 9.2-0735 - 9.2 is the Building and Safety District Office and 0735 is the plan check number issued by that office).
7. Must check the proper box indicating to which section the plans are to be sent. One post card must be filled out for each section.
8. Status of the hydrology study (if drainage/grading plan is involved).
9. Use this line to indicate a submittal that is not covered by the standard items above.
10. This line may be used by the person submitting the plans or by the permit technician to indicate additional information.
11. Name, company, and telephone number of the person to be contacted if there are any future questions.

Side 2 of Post Card

A. The following information is to be entered by the applicant:

1. Date of plan submittal.
2. Must indicate where they want to pick up the plans when the plan check is complete.
3. Project address.
4. Tract or parcel map number.
5. Grading plan or building plan check number plus District Office number (for example, 9.2-0735).

B. The following information is to be entered by the permit technician:

6. Must indicate status of submittal.
7. Sign and date card.

In order for this post card system to work properly, all of the information shown above must be entered on the post cards. If the person submitting the plans does not know any part of the above information, do not accept the plans. When the post card has been completed, staple it to the plans on the back of the bottom right hand corner of the first sheet and forward to the Land Development Division Processing Center.

SIDE 1

B

Date: (3)

Complete only those parts of this card that apply.

1. Project Address: (4)
2. TR/PM No(s): (5)
3. GPC/BPC No.: (6)
4. Indicate status of the Hydrology Study:
5. Type of submittal, if not listed above: (9)
6. Comments: (10)

(7) ☐ To Grading ☐ To Drainage ☐ To Geology ☐ To Soils

(8) ☐ N/A ☐ Approved ☐ Direct Check

(11) _____ ( ) _____

Contact Person/Company Telephone No.

B

L.A. County Department of Public Works
Land Development Division
P.O. Box 1460
Alhambra, California 91802-1460

(1) _____
_____
_____

B

L.A. County Department of Public Works
Land Development Division
P.O. Box 1460
Alhambra, California 91802-1460

(2) _____
_____
_____

SIDE 2

Pick-Up Person/Company _____ Date _____

DEPARTMENT USE ONLY

(6)
- ☐ First Submittal
- ☐ From District Office
- ☐ Capital
- ☐ Fast Track
- ☐ Resubmittal
- ☐ District Office No. _____
- ☐ Revision

Estimated completion date: _____

Comments:

(7)

Counter person _____ Date _____

Date: (1) _____

(2)
- ☐ Plan/Report is to be picked up at the Processing Center
- ☐ Plan/Report is to be picked up at Building & Safety District Office, call prior to pick up.

Project Address: (3) _____

TR/PM No(s): (4) _____, _____, _____

Plan Check No.: (5) _____

The plans/review sheets for the project listed above have been:

- ☐ Approved
- ☐ Reviewed; corrections are required; please pick up plans/review sheets
- ☐ Contracted out; _____ Private Consultant/Phone No. _____ Date

If you have any questions, please contact the Processing Center at (818) 458-4930.

Plan Checker _____ Date _____

Date: (1) _____

(2)
- ☐ Plan/Report is to be picked up at the Processing Center
- ☐ Plan/Report is to be picked up at Building & Safety District Office, call prior to pick up.

Project Address: (3) _____

TR/PM No(s): (4) _____, _____, _____

Plan Check No.: (5) _____

The plans/review sheets for the project listed above have been:

- ☐ Approved
- ☐ Reviewed; corrections are required; please pick up plans/review sheets
- ☐ Contracted out; _____ Private Consultant/Phone No. _____ Date

If you have any questions, please contact the Processing Center at (818) 458-4930.

Plan Checker _____ Date _____

NOTE: Engineer has been notified to pick up plans.

May 26, 1989

TO: All Section Heads

FROM: Dean Efstathiou DE
Assistant Division Engineer

PROCESSING OF IMPROVEMENT PLANS FOR CITIES

1. Engineer will submit the complete package of plans and supporting material with quantity estimate to the processing center.

2. Engineer will fill out "form for City Projects" (See page 2). Engineer will also fill out a notification post card. Processing Center will use this card for tracking only. There will be no estimated date of completion shown. Card will indicate, in comments, "Plan for cost estimate only".

3. Processing Center will hand carry the complete package and quantity estimate to the appropriate section.

4. After the section has completed the cost estimate, they will return the complete package with the cost estimate to L.D.M.A. The plans will be logged out and forwarded to city services (John Hill Extension 3918).

5. When the plans are resubmitted to the center, they must be accompanied by a service request. The processing center staff will log in the submittal and assign a job number. The job number will be a combination of the service request number and the activity number preceded by L9, which indicates that it is a city job. The original service request will be sent to Mary Gibson (extension 4968). A copy of the service request, with the job number will be attached to the plans and sent to the appropriate section.

WJS:sa/PC

CITY PROJECT

DATE _____

TO BE FILLED OUT BY ENGINEER AND ATTACHED TO THE IMPROVEMENT PLAN QUANTITY ESTIMATE.

TYPE OF IMPROVEMENT PLAN: _____

TR/PM NO. _____

STREET ADDRESS. _____

CITY OF _____

ENGINEER: _____

ADDRESS: _____

_____

PHONE # ( ) _____

DEVELOPER'S NAME _____

ADDRESS: _____

_____

PHONE # _____

PLEASE PROVIDE AN ESTIMATE FOR PLAN CHECK TO CITY SERVICES SECTION.

_____
PROCESSORS INTIALS

$ _____	_____	_____
SECTION/COST ESTIMATE AMOUNT	DATE	INITIALS

BSM:wg/CITY-PJT

Revised 12/01/89

LDMA Surcharge

Yds.	Plancheck	Permit
0-1000	$ 50	$25
Over 1000	120	60

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION
GRADING PERMIT AND PLAN CHECKING FEES
COUNTY UNINCORPORATED AREA

Effective July 21, 1991

A permit issuance fee of $16.50 shall be added to all permit fees.

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
50	$ 170.00	$ 96.00
100	170.00	143.00
200	228.00	191.50
300	286.00	240.00
400	344.00	288.50
500	402.00	337.00
600	460.00	385.50
700	518.00	434.00
800	576.00	482.50
900	634.00	531.00
1000	692.00	579.50
THEN BY THOUSANDS		
2	740.00	620.00
3	788.00	660.50
4	836.00	701.00
5	884.00	741.50
6	932.00	782.00
7	980.00	822.50
8	1,028.00	863.00
9	1,076.00	903.50
10	1,124.00	944.00
11	1,152.50	969.90
12	1,181.00	995.80
13	1,209.50	1,021.70
14	1,238.00	1,047.60

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
15	$ 1,266.50	$ 1,073.50
16	1,295.00	1,099.40
17	1,323.50	1,125.30
18	1,352.00	1,151.20
19	1,380.50	1,177.10
20	1,409.00	1,203.00
21	1,437.50	1,228.90
22	1,466.00	1,254.80
23	1,494.50	1,280.70
24	1,523.00	1,306.60
25	1,551.50	1,332.50
26	1,580.00	1,358.40
27	1,608.50	1,384.30
28	1,637.00	1,410.20
29	1,665.50	1,436.10
30	1,694.00	1,462.00
31	1,722.50	1,487.90
32	1,751.00	1,513.80
33	1,779.50	1,539.70
34	1,808.00	1,565.60
35	1,836.50	1,591.50
36	1,865.00	1,617.40
37	1,893.50	1,643.30
38	1,922.00	1,669.20
39	1,950.50	1,695.10
40	1,979.00	1,721.00

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
41	$ 2,007.50	$ 1,746.90
42	2,036.00	1,722.80
43	2,064.50	1,798.70
44	2,093.00	1,824.60
45	2,121.50	1,850.50
46	2,150.00	1,876.40
47	2,178.50	1,902.30
48	2,207.00	1,928.20
49	2,235.50	1,954.10
50	2,264.00	1,980.00
51	2,292.50	2,005.90
52	2,321.00	2,031.80
53	2,349.50	2,057.70
54	2,378.00	2,083.60
55	2,406.50	2,109.50
56	2,435.00	2,135.40
57	2,463.50	2,161.30
58	2,492.00	2,187.20
59	2,520.50	2,213.10
60	2,549.00	2,239.00
61	2,577.50	2,264.90
62	2,606.00	2,290.80
63	2,634.50	2,316.70
64	2,663.00	2,342.60
65	2,691.50	2,368.50
66	2,720.00	2,394.40

14-23

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
67	$ 2,748.50	$ 2,420.30
68	2,777.00	2,446.20
69	2,805.50	2,472.10
70	2,834.00	2,498.00
71	2,862.50	2,523.90
72	2,891.00	2,549.80
73	2,919.50	2,575.70
74	2,948.00	2,601.60
75	2,976.50	2,627.50
76	3,005.00	2,653.40
77	3,033.50	2,679.30
78	3,062.00	2,705.20
79	3,090.50	2,731.10
80	3,119.00	2,757.00
81	3,147.50	2,782.90
82	3,176.00	2,808.80
83	3,204.50	2,834.70
84	3,233.00	2,860.60
85	3,261.50	2,886.50
86	3,290.00	2,912.40
87	3,318.50	2,938.30
88	3,347.00	2,964.20
89	3,375.50	2,990.10
90	3,404.00	3,016.00
91	3,432.50	3,041.90
92	3,461.00	3,067.80
93	3,489.50	3,093.70
94	3,518.00	3,119.60
95	3,546.50	3,145.50
96	3,575.00	3,171.40
97	3,603.50	3,197.30
98	3,632.00	3,223.20
99	3,660.50	3,249.10
100	3,689.00	3,275.00

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
110	$ 3,767.50	$ 3,339.70
120	3,846.00	3,404.40
130	3,924.50	3,469.10
140	4,003.00	3,533.80
150	4,081.50	3,598.50
160	4,160.00	3,663.20
170	4,238.50	3,727.90
180	4,317.00	3,792.60
190	4,395.50	3,857.30
200	4,474.00	3,922.00
210	4,552.50	3,986.70
220	4,631.00	4,051.40
230	4,709.50	4,116.10
240	4,788.00	4,180.80
250	4,866.50	4,245.50
260	4,945.00	4,310.20
270	5,023.50	4,374.90
280	5,102.00	4,439.60
290	5,180.50	4,504.30
300	5,259.00	4.569.00
310	5,337.50	4,633.70
320	5,416.00	4,698.40
330	5,494.50	4,763.10
340	5,573.00	4,827.80
350	5,651.50	4,892.50
360	5,730.00	4,957.20
370	5,808.50	5,021.90
380	5,887.00	5,086.60
390	5,965.50	5,151.30
400	6,044.00	5,216.00
410	6,122.50	5,280.70
420	6,201.00	5,345.40
430	6,279.50	5,410.10
440	6,358.00	5,474.80

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
450	$ 6,436.50	$ 5,539.50
460	6,515.00	5,604.20
470	6,593.50	5,668.90
480	6,672.00	5,733.60
490	6,750.50	5,798.30
500	6,829.00	5,863.00
510	6,900.25	5,927,70
520	6,971.50	5,992.40
530	7,042.75	6,057.10
540	7,114.00	6,121.80
550	7,185.25	6,186.50
560	7,256.50	6,251.20
570	7,327.75	6,315.90
580	7,399.00	6,380.60
590	7,470.25	6,445.30
600	7,541.50	6,510.00
610	7,612.75	6,574.70
620	7,648.00	6,639.40
630	7,755.25	6,704.10
640	7,826.50	6,768.80
650	7,897.75	6,833.50
660	7,969.00	6,898.20
670	8,040.25	6,962.90
680	8,111.50	7,027.60
690	8,182.75	7,092.30
700	8,254.00	7,157.00
710	8,325.25	7,221.70
720	8,396.50	7,286.40
730	8,467.75	7,351.10
740	8,539.00	7,415.80
750	8,610.25	7,480.50
760	8,681.50	7,545.20
770	8,752.75	7,609.90
780	8,824.00	7,674.60

14 94

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT	VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT	VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
790	$ 8,895.25	$ 7,739.30	1130	$11,317.75	$ 9,939.10	1470	$13,740.25	$12,138.90
800	8,966.50	7,804.00	1140	11,389.00	10,003.80	1480	13,811.50	12,203.60
810	9,037.75	7,868.70	1150	11,460.25	10,068.50	1490	13,882.75	12,268.30
820	9,109.00	7,933.40	1160	11,531.50	10,133.20	1500	13,954.00	12,333.00
830	9,180.25	7,998.10	1170	11,602.75	10,197.90	1510	14,025.25	12,397.70
840	9,251.50	8,062.80	1180	11,674.00	10,262.60	1520	14,096.50	12,462.40
850	9,322.75	8,127.50	1190	11,745.25	10,327.30	1530	14,167.75	12,527.10
860	9,394.00	8,192.20	1200	11,816.50	10,392.00	1540	14,239.00	12,591.80
870	9,465.25	8,256.90	1210	11,887.75	10,456.70	1550	14,310.25	12,656.50
880	9,536.50	8,321.60	1220	11,959.00	10,521.40	1560	14,381.50	12,721.20
890	9,607.75	8,386.30	1230	12,030.25	10,586.10	1570	14,452.75	12,785.90
900	9,679.00	8,451.00	1240	12,101.50	10,650.80	1580	14,524.00	12,850.60
910	9,750.25	8,515.70	1250	12,172.75	10,715.50	1590	14,595.25	12,915.30
920	9,821.50	8,580.40	1260	12,244.00	10,780.20	1600	14,666.50	12,980.00
930	9,892.75	8,645.10	1270	12,315.25	10,844.90	1610	14,737.75	13,044.70
940	9,964.00	8,709.80	1280	12,386.50	10,909.60	1620	14,809.00	13,109.40
950	10,035.25	8,774.50	1290	12,457.75	10,974.30	1630	14,880.25	13,174.10
960	10,106.50	8,839.20	1300	12,529.00	11,039.00	1640	14,951.50	13,238.80
970	10,177.75	8,903.90	1310	12,600.25	11,103.70	1650	15,022.75	13,303.50
980	10,249.00	8,968.60	1320	12,671.50	11,168.40	1660	15,094.00	13,368.20
990	10,320.50	9,033.30	1330	12,742.75	11,233.10	1670	15,165.25	13,432.90
1000	10,391.50	9,098.00	1340	12,814.00	11,297.80	1680	15,236.50	13,497.60
1010	10,462.75	9,162.70	1350	12,885.25	11,362.50	1690	15,307.75	13,562.30
1020	10,534.00	9,227.40	1360	12,956.50	11,427.20	1700	15,379.00	13,627.00
1030	10,605.25	9,292.10	1370	13,027.75	11,491.90	1710	15,450.25	13,691.70
1040	10,676.50	9,356.80	1380	13,099.00	11,556.60	1720	15,521.50	13,756.40
1050	10,747.75	9,421.50	1390	13,170.25	11,621.30	1730	15,592.75	13,821.10
1060	10,819.00	9,486.20	1400	13,241.50	11,686.00	1740	15,664.00	13,885.80
1070	10,890.25	9,550.90	1410	13,312.75	11,750.70	1750	15,735.25	13,950.50
1080	10,961.50	9,615.60	1420	13,384.00	11,815.40	1760	15,806.50	14,015.20
1090	11,032.75	9,680.30	1430	13,455.25	11,880.10	1770	15,877.75	14,079.90
1100	11,104.00	9,745.00	1440	13,526.50	11,944.80	1780	15,949.00	14,144.60
1110	11,175.25	9,809.70	1450	13,597.75	12,009.50	1790	16,020.25	14,209.30
1120	11,246.50	9,874.40	1460	13,669.00	12,074.20	1800	16,091.50	14,274.00

14-25

VOLUME (cu.yds.) NOT OVER	FEES PLAN CHECK	FEES GRADING PERMIT
1810	$16,162.75	$14,338.70
1820	16,234.00	14,403.40
1830	16,305.25	14,468.10
1840	16,376.50	14,532.80
1850	16,447.75	14,597.50
1860	16,519.00	14,662.20
1870	16,590.25	14,726.90
1880	16,661.50	14,791.60
1890	16,732.75	14,856.30
1900	16,804.00	14,921.00
1910	16,875.25	14,985.70
1920	16,946.50	15,050.40
1930	17,017.75	15,115,10
1940	17,089.00	15,179.80
1950	17,160.25	15,244.50
1960	17,231.50	15,309.20
1970	17,302.75	15,373.90
1980	17,374.00	15,438.60
1990	17,445.25	15,503.30
2000	17,516.50	15,568.00
2010	17,587.75	15,632.70
2020	17,659.00	15,697.40
2030	17,730.25	15,762.10

Plan check fee in excess of above yardage:

FOR EACH ADDITIONAL 10,000 cubic yards or fraction thereof, (use the next higher full ten thousand number), add $71.25 to the plan check fee.

$17,730.25 + (36 x $71.25) = $20,295.25.

Permit fee in excess of above yardage:

FOR EACH ADDITIONAL 10,000 cubic yards or fraction thereof, (use the next higher full ten thousand number), add $64.70 to permit fee.

EXAMPLE: Permit fee for 2,383,000 cubic yards =
$15,762.10 + (36 x $64.70) = $18,091.30

14-26

ME:dg
DMISC/GRDFEE(1-3)

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION
GRADING CORRECTION SHEET

SITE ADDRESS	TRACT/PM NO.	DISTRICT NO.	GRADING PLAN CHECK NO.

DESIGN ENGINEER/APPLICANT	( ) TELEPHONE NO.

OWNER	( ) TELEPHONE NO.

VOLUME _____ CU. YDS. _____ _____ CHECKER _____ ENTRY DATE _____ PLAN CHECK EXPIRES

ENGINEERED GRADING [ ] REGULAR GRADING [ ]

A. Complete the following circled items at the Building and Safety District Office after grading plan approval.

1. Post a Grading Permit Security of $ _____ (based on _____ cu.yds. of material handled). (Section 7008 of Building Code.)
2. Verify to District Office that site is a legal building site. A separate permit must be obtained for each site.
3. Complete application to show _____.
4. A Supplemental plan check fee of $ _____ will be required for additional yardage not shown on grading permit application.
5. The site may be within the Coastal Zone. District Office must verify if Costal Commission Approval is required.
6. Rainy season erosion control measures are required by October 1st and whenever rain is anticipated in the forecast.
7. Submit, with signatures of owner and all consultants, the acknowledgment forms concerning the employment of a Civil Engineer and of Technical Consultants.
8. Specify proposed starting and completion dates on the plan.
9. Retaining walls require separate building permit. Approval required prior to issuance of grading permit.
10. City Engineer/Planning Director to approve grading plan prior to issuance of grading permit.
11. District Office to verify that oak trees exist on this site and an Oak Tree Permit has been obtained from the Department of Regional Planning.
12. District to determine Fire Zone. If in Fire Zone No. 4, a permit from the Fire Department is required.
13. Applicant must certify that a Notice of Intent (NOI) has been filed with the State Water Resources Control Board and a Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the site (when total "disturbed" (graded) area is 5 acres or more).
14. A landscape permit is required for this project. Refer to Section 7019 and Chapter 71 of the Los Angeles County Uniform Building Code. The landscape permit final shall be completed before the building permit final.

B. RECHECK DATE AND OUTSTANDING CORRECTIONS: (SEE SECTIONS C TO L).

C. INSTRUCTIONS

1. BEFORE GRADING PLAN APPROVAL FOR ISSUANCE OF A GRADING PERMIT, THE PLANS AND APPLICATIONS FOR THE PROPOSED GRADING REQUIRE THE INFORMATION, REVISIONS AND CORRECTIONS INDICATED BY THE CIRCLED ITEMS BELOW. THE APPROVAL OF PLANS AND SPECIFICATIONS DOES NOT PERMIT THE VIOLATION OF ANY SECTION OF THE BUILDING CODE OR OTHER CODE OR STATE LAW.

2. Corrections with circled item numbers apply to this plan check.

3. On the line to the right of the circled corrections please indicate the sheet number of the plans on which the corrections are made. Return this sheet with check print and revised plans and specifications when corrections have been made.

4. Counter consultations must be scheduled in advance and confirmed with the plan checker on the day of the scheduled appointment. Plan checker is available for meetings and phone calls from 1 p.m. to 5 p.m. only.

5. Numbers in parentheses refer to Sections of the latest edition of the Los Angeles County Building Code, i.e. 7016(f).

D. AGENCY APPROVALS

Zoning

The following must be completed to provide zoning compliance for the proposed grading:

1. Obtain an approved plot plan from the Department of Regional Planning for importing or exporting over 10,000 cubic yards of earth over County roads. (Special permit required for importing or exporting over 100, 000 cubic yards over County Roads.) ____

2. A Conditional Use Permit (C.U.P.) prepared in accordance with Sections 22.56.030 and 22.56.210 of Planning Zoning Code shall be required if more than 100,000 cubic yards of earth materials are moved within site or tract boundaries, whether filed as one permit, or the cumulative total of more than one permit, on the same lot or parcel of land within a one-year period. (Section 7006 (b) with reference to the applicable zoning provisions in Chapters 22.24, 22.28, 22.32 and 22.40 of the Planning and Zoning Code.) ____

Geology and Soils

3. (a) A recent (one year or less) preliminary geotechnical investigation report is required. The report shall provide information on the nature, distribution, physical and engineering properties of the soils onsite and/or to be used as fill, and include recommendations on grading procedures. ____

(b) The Engineer in responsible charge must sign, stamp and indicate the date or registration expiration on the soils report. ____

(c) Materials Engineering Division must approve the grading plan. ____

(d) The plan must be specifically approved by the _____ consultant geologist, _____ consultant geotechnical engineer manually with original signature(s), wet stamp and date(s) on each sheet prior to approval by the Geology Section or Drainage and Grading Section. ____

(e) The _____ geologist, _____ geotechnical engineer, may have to make a finding in accordance with Section 309, Los Angeles County Building Code. ____

Drainage

4. The (Drainage Plan Checker) (City Engineer) must approve the drainage of the site. See attached review sheet on Page 14-40 for their requirements. For single lot projects at District (8.0, 8.2, 9.1), contact _____ at (_____) _____. ____

Department of Fish and Game

5. Submit either a receipt that the Environmental filing fees have been paid or waived from California Department of Fish and Game. (For projects that are a new subdivision or have Conditional Use Permits.) ____

6. Submit a copy of permit from California Department of Fish and Game for proposed work within the streambed (blue line watercourses on quad sheet) (Section 1601 and 1603 of the Fish and Game Code). ____

U. S. Army Corps of Engineers

7. Submit a copy of Section 404 Permit or clearance from the U.S. Army Corps of Engineers for proposed work within the streambed(s). ____

E. GRADING DOCUMENTATION

1. The yardage shown on the application, upon which plan check and permit fees are based, is the larger amount of the raw cut or fill volume plus (+) the amount of overexcavation/alluvial removal and recompaction volume. Submit volume calculations (signed and stamped by a registered civil engineer) to verify the yardages utilized are correct. A supplemental plan check fee will be required for additional yardages (see Item A4 on Page 14-27). Check geotechnical report for recommended minimum depths and areas to be overexcavated and recompacted. ____

2. Temporary erosion control plans are required for this project and must be approved prior to approval of grading plan between October 1st and April 15th. ____

3. (a) The plan shows grading work outside of the site property line. ____

   (1) Privately Owned Land - Separate permits are required for the yardage involved. Submit notarized and recorded covenants from the owners of the properties involved. See enclosed guidelines. ____

   (2) Right-of-Way ____

      1. Public Right-of-Way - Obtain and submit approval from Permits Section, Construction Division. Call (818) 458-3129 for information. ____

      2. Private and Future Right-of-Way - Obtain and submit approval from Road Section, Land Development Division. Call (818) 458-4909 for information. ____

      3. Private Right-of-Way - Obtain and submit letters of permission from all parties that have an interest or use this right-of-way as an access. ____

(b) A letter of permission is required for grading within an existing easement. Label and delineate all easements. Show bearings and dimensions (linear and curve data) and submit recorded document(s) for "access" easement(s). ____

4. (a) If there is a conditional use permit for the site, show the number below and note it on the plans. CUP _____ ____

(b) Submit a copy of the Conditional Use Permit or show that the proposed development conforms to the zoning requirements by obtaining approval from the Department of Regional Planning stating that the plans are in conformance with the Zoning Codes and Conditional Use Permits. ____

(c) The site may be in a Hillside Management or Significant Ecological Area. Submit a Conditional Use Permit. ____

(d) The site does not conform to the Zoning or Conditional Use Permit Requirements. Please modify the grading plan or obtain a new Conditional Use Permit from the Department of Regional Planning that will permit the proposed grading. ____

(e) The proposed grading work impacts or encroaches into the Federal Designated Flood Zone "A." It will be necessary to process a Conditional Letter of Map Revision (CLOMR) before this grading plan can be approved. Please see attached information for processing CLOMR's.

Tract or Parcel Map Grading Plans

5. The grading contours do not conform substantially to the approved tentative map. These differences substantially change the approved esthetics of the site. Submit a revised tentative map to the Department of Regional Planning for their approval. ____

6. The plan cannot be approved until the Drainage and Grading Section has received a copy of the conditions of tentative approval. ____

7. Conditions of tentative approval for subject property must be incorporated on the plans. ____

8. Graded slopes may not extend into street right of way when street trees are required as a conditions of tentative approval. ____

9. Show fire road access requirements on Lots _____ . ____

Single Lot Grading Plans

10. A statement signed by the owner or Registered Civil Engineer (see Page 14-83) verifying that the owner is aware that the Fire Department access road requirements will be determined prior to issuance of building permits is required. ____

F. GRADING REQUIREMENTS TO BE SHOWN ON THE PLANS

1. See comments on check prints, dated _____. ____

2. The plan must have the following in accordance with Section 7005 (b): ____

a. Vicinity sketch indicating site location. ____

b. North arrow and scale of plans. A 40-foot scale plan or better is required. ____

c. Clearly indicate any existing or proposed structures on the site and any structures on adjacent land within 15 feet of the property line. ____

d. Existing contours of the entire site. (Clarify between original (natural), and proposed contours.) All existing grading without a permit must meet existing code requirements. ____

e. Cut including overexcavated volume in _____ cubic yards. Fill volumes including recompaction volume in _____ cubic yards. Calculations must include yardage from original to proposed contours. ____

f. Boundary lines (tract boundaries, lot lines, City lines) of the site shown and labeled. ____

g. Elevations, location, extent, and slope of all proposed grading shown by contours, cross sections and location of any rock disposal areas. ____

3. All slopes shall be shown on the plans as follows:

a. Define slopes by finished/proposed contour lines. ____

b. Specify proposed slope angle ratio of all cut and fill slopes on plan. (Use ratio of horizontal to vertical distance.) ____

c. Indicate proposed cut and/or fill slope areas on plan by shading. ____

d. Show location of cut-fill contact (daylight line) on plans using special lines and indicate cut and fill side of line. ____

e. Show slope setbacks from property lines or building locations which conform with minimum requirements of Sections 7017 and 2907.(d) of the Building Code. ____

f. Outline the proposed area to be overexcavated and recompacted in the plan view and show the depths clearly in either plan or a profile view. ____

4. In addition, all slopes must contain the following:

a. For slopes with a surface gradient steeper than 2:1, the Geotechnical Engineer shall submit satisfactory soil test data and engineering calculations to substantiate the stability of all such slopes and slope surfaces under conditions of saturation. (See Section 7016(c) of the Building Code.) ____

b. Fill placed over existing terrain 5:1 or steeper must be supported on benches cut vertically into bedrock or other competent material. Show detail and dimensions of such benching to be provided in accordance with Section 7016(b) of the Building Code. ____

c. Where fill is to be placed above the top of an existing slope steeper than 3:1, the toe of the fill must be set back from the top edge of the slope at least 6 feet horizontally. A lesser setback may be approved if recommended by the Geotechnical Engineer in accordance with Section 7016(f) of the Building Code. ____

d. Combination fill-over-cut slopes cannot be approved unless specifically recommended by the Geotechnical Engineer and Geologist and a cross-sectional detail of each slope is shown on the plan. ____

e. No fill may toe out on existing terrain that has a slope steeper than 2:1. (See Section 7016(f) of the Building Code.) ____

5. Show subdrains under all fills to be placed in natural drainage courses unless the omission of such drains is specifically recommended by the Geotechnical Engineer. Provide a detail of subdrain construction and materials as recommended by the Geotechnical Engineer. (See Section 7016(b) of the Building Code.) The outlet should be embedded in concrete for its protection. ____

6. Show location and cross-sectional detail of all buttress fills, blanket fills (seals) and/or other similar protective measures recommended by the project Geologist or Geotechnical Engineer. ____

7. Show and label on the plans total "disturbed" (graded) area proposed in acres.

8. Label all retaining and block walls, "constructed per separate permit." ____

G. <u>DRAINAGE REQUIREMENTS TO BE SHOWN ON PLANS</u>

1. Show proposed drainage pattern in graded areas. All drainage devices must be defined by showing the finished elevations and the slope gradient in percent. ____

2. Drainage is not permitted to sheet over graded slopes steeper than 5:1. Concentrated drainage is not permitted to discharge onto any graded slope. ____

3. All drainage devices which are to be constructed under separate plans must be referenced on the plans. Easements for publicly maintained systems must be outlined on the grading plan. ____

4. Show detail of catch basins, inlet structures, and outlet structures or reference applicable APWA or Department of Public Works Standard Drawing Number. ____

5. Provide with a detail on the plans a paved swale at top of cut slope(s). [Section 7018(f)]. ____

6. Provide with a detail on the plans a berm at the top of all fill slopes. [Section 7018(f)] ____

7. Access is required at all points of closed drains where the grade changes from a steep to a relatively flat slope. The manhole(s) or cleanout(s) must be detailed on the plans. ____

8. Show the location of any existing or proposed storm drains and reference them on the plans. ____

H. <u>LOT DRAINAGE REQUIREMENTS TO BE SHOWN ON PLANS</u>

1. Show the finish elevations at the corners of lot pad (building site) so that such pad area will have a minimum slope of two (2) percent toward the intended drainage outlet in accordance with Section 7018(c) of the Building Code. ____

2. Show the graded swale high point elevation and swale elevations at proposed building corners. All graded swales must have a minimum of one (1) percent slope towards the street or designed drainage outlet. ____

3. Show a detail of typical side swale between adjacent lots at the same or different elevations. ____

4. Show, in a detail on the plans, the side swales when a stoop, fireplace, or other obstruction is within five feet of the property line. ____

I. TERRACE DRAINAGE REQUIREMENTS TO BE SHOWN PLANS

1. All drainage terraces required to be paved must have three (3) inches minimum of concrete or gunite reinforced with 6 x 6 - 10/10 wire mesh. Show a detail on the grading plan in accordance with Section 7018(e) of Building Code. ____

2. Show locations, dimensions and details of splash walls. ____

3. Demonstrate that the maximum length of terrace or swale that may contribute to any down drain is 300 feet in any direction as required by Section 7018(e) of the Building Code. ____

4. Provide open down drains unless otherwise approved by the Building Official. ____

5. Provide a detail on the plans of transition structures for open drains where the grade changes from a steep to a relatively flat slope. ____

6. Slopes steeper than 3:1 shall be provided with paved drainage terraces at vertical intervals of 25 feet for cut and/or fill slopes over 30 feet high. Such terraces shall have a minimum width of eight (8) feet (total horizontal distance) and a maximum depth of one foot at the flow line, as required by Section 7018(e) of the Building Code. ____

7. For slopes steeper than 3:1 and over 100 feet high, one drainage terrace near midheight shall be provided and not be less than 20 feet in width, a minimum of 8 feet which must be paved, as required by Section 7018(d) of the Building Code. ____

8. Show flow line elevations of all drainage terraces at each change in grade and at approximate 100 feet intervals in between. The flow line gradient can be no less than five (5) percent and no greater than 12 percent. There shall be no reduction in grade along the direction of flow unless it can be shown that the velocity of flow will be such as to prevent silt deposition in accordance with Section 7018(e) of the Building Code. ____

9. Sufficient access for slope drain maintenance must be provided and shown on the plans. ____

J. SLOPE PLANTING AND IRRIGATION REQUIREMENTS

1. Specify the total proposed landscaped area in _____ square feet. ____

2. A Landscape Permit is <u>not</u> required for this permit. However, slope planting and irrigation to control erosion shall be part of the grading permit and subject to the requirements in Section 7019 of the Uniform Building Code. Slope Planting and Irrigation plans shall be submitted for our review after grading plan approval or when review of the grading plan is in "direct" check. ____

3. A Landscape Permit is required for this project. Submit Slope Planting and Irrigation Plans to our office for review and approval subject to the requirements in Section 7019 and Chapter 71 of the Uniform Building Code. Slope Planting and Irrigation plans shall be submitted after grading plan approval or when review of the grading plan is in "direct" check.

K. NOTES TO BE PLACED ON PLANS

1. Add the Circled Notes to the first sheet of Grading Plans

1. General Notes

a. Any modifications of or changes in approved grading plans must be approved by the Building Official. ____

b. All graded sites must have drainage swales, berms, and other drainage devices prior to approval of rough grading. (Section 7020(c) of the Building Code.) ____

c. A copy of the grading permit and approved grading plans must be in the possession of a responsible person and available at the site at all times. ____

d. The Field Engineer must set drainage stakes for all drainage devices ____

e. All storm drain work is to be done under continuous inspection by the Field Engineer. Weekly status reports shall be submitted by the Field Engineer to the local Building and Safety District Office. ____

f. Final grading must be approved before occupancy of buildings will be allowed. (Section 307(a) of the Building Code.) ____

g. Comply with Chapter 22.56 of Planning and Zoning Code by showing locations and sizes of all Oak Trees on the grading plan. ____

h. The retaining wall details shown on the plans are not checked by the Grading Section. Submit a building plan application and plan check fee to the Building and Safety Division District Office. ____

i. Separate plans for temporary drainage and erosion control measures to be used during the rainy season must be submitted prior to October 1. The erosion control devices shown on said plans must be installed by no later than November 1 and maintained in operable condition until April 15 of the following year and before any anticipated rain. ____

j. Every effort should be made to eliminate the discharge of non-stormwater from the project site at all times. ____

k. All subdrain outlets are to be surveyed for line and elevation. This can be shown on an as-built grading plan. ____

l. A preventive program to protect the slopes from potential damage from burrowing rodents is required. Owner to inspect slopes periodically for evidence of burrowing rodents and a first evidence of their existence shall employ an exterminator for their removal. (Section 7019(d) of the Building Code.) ____

m. Roof drainage must be diverted from graded slopes. (Section 7018(f) of the Building Code.) ____

n. All construction and grading within a P.D. easement are to be done per Private Drain No. _____ ____

o. A NPDES permit from the Regional Water Quality Control Board is required before any discharge of non-stormwater into the storm drain is allowed. ____

2. Fill Notes to be placed below General Notes

a. Fill shall be compacted throughout their full extent to a minimum of 90 percent of maximum dry density as determined by A.S.T.M. Soil Compaction Test D1557-78, Method "D", where applicable: Where not applicable, a test acceptable to the Building Official shall be used. (Section 7016(a) of the Building code.) ____

b. Field density shall be determined by a method acceptable to the building official. (Section 7016(a) of the Building Code.) ____

c. Sufficient tests of the fill soils shall be made to determine the relative compaction of the fill in accordance with the following minimum guidelines: ____

(1) One test for each two foot vertical lift. ____

(2) One test for each 1000 cubic yards of material placed. ____

(3) One test at the location of the final fill slope for each building site (lot) in each four foot vertical lift or portion thereof. ____

(4) One test in the vicinity of each building pad for each four foot vertical lift or portion thereof. ____

d. Sufficient tests of fill soils shall be made to verify that the soil properties comply with the design requirements, as determined by the geotechnical engineer, including soil types, shear strengths parameters and corresponding unit weights in accordance with the following guidelines: ____

1. Prior to placement of the fill, Shear Tests shall be taken of each type of soil or soil mixture to be used for all fill slopes steeper than three horizontal to one vertical ____

2. Shear Test results for the proposed fill must meet or exceed the design values used in the geotechnical report to determine slope stability requirements. Otherwise, the slope must be re-evaluated using the actual shear test value of the fill material that is to be used. ____

3. Fill soils shall be free of deleterious materials. ____

4. The results of such testing shall be included in the reports required by Section 7018(h) of the Building Code.

e. Fill shall not be placed until stripping of vegetation, removal of unsuitable soils, and installation of subdrain (if any) have been inspected and approved by the Geotechnical Engineer. The Building Official may require a "Standard Test Method for Moisture, Ash, Organic Matter, Peat or other Organic Soils" ASTM D-2974-87 on any suspect material. All materials that have a test value of 10 percent or greater will be rejected as unsuitable for support of or being structural fill. ____

f. Rock or similar material greater than 12 inches in diameter shall not be placed in the fill unless recommendations for such placement have been submitted by the Geotechnical Engineer and approved in advance by the Building Official. ____

g. Continuous inspection by the Geotechnical Engineer or his responsible representative shall be provided during all fill placement and compaction operations where fills have a depth greater than 30 feet or slope surface steeper than 2:1. ____

h. Continuous inspection by the Geotechnical Engineer or his responsible representative shall be provided during all subdrain installation. ____

i. Fill slopes in excess of 2:1 steepness ratio are to be constructed by the placement of soil at sufficient distance beyond the proposed finish slope to allow compaction equipment to be operated at the outer limits of the final slope surface. The excess fill is to be removed prior to completion of rough grading. Other construction procedures may be used when it is demonstrated to the satisfaction of the Building Official that the angle of slope, construction method and other factors will have equivalent effect. (Section 7016(a) of the Building Code.) ____

j. The Geotechnical Engineer shall provide sufficient inspections during the preparation of the natural ground and the placement and compaction of the fill to be satisfied that the work is being performed in accordance with the plan and applicable code requirements. ____

k. The Building and Safety District Office Manager may waive the requirement for compacting fill in accordance with Page 70.20 of the Building Code Manual. Uncompacted fills cannot support any structure. The grading plan must show any areas of Uncompacted fills along with the following note: "These fills are uncompacted and are unsuitable for the support of any structure." ____

l. The grading contractor shall submit the statement required by Section 7021 of the Building Code at the completion of rough grading. ____

3. Inspection Notes to be placed below Fill Notes.

a. The permittee or his agent shall notify the Building Official at least one working day in advance of required inspections at following stages of the work (Section 7020 of the Building Code.) ____

(1) Initial. When the site has been cleared of vegetation and unapproved fill and it has been scarified, benched or otherwise prepared for fill. Fill shall not have been placed prior to this inspection. ____

(2) Rough. When approximate final elevations have been established; drainage terraces, swales and berms installed at the top of the slope; and the statements required in this Section have been received. ____

(3) Final. When grading have been completed; all drainage devices installed; slope planting established, irrigation systems installed and the As-Built plans required statements, and reports have been submitted. ____

b. Add the following Note if there is engineered grading:

In addition to the inspection required of the Building Official for Regular Grading, reports and statements shall be submitted to the Building Official in accordance with Sections 7020 and 7021 of the Building Code. ____

c. Add the following Agency Notes as required.

(1) Secure permission from Los Angeles County Department of Public Works (Construction Division, Permit Section), or CALTRANS for construction or grading within their street right of way. ____

(2) A permit to operate in Fire Zone 4 must be obtained from the Fire Department prior to commencing work. Call (213) 267-2461 for information. Fire Department access road requirements cannot be determined until a building permit is filed. ____

(3) Grading in future street right of way must be inspected by this Department. Call (818) 458-3129 for information. ____

(4) Secure permission from the Corps of Engineers to perform work in the streambed. ____

(5) Obtain a California State Fish and Game Permit to perform work in the streambed. ____

(6) In accordance with NPDES construction requirements, a Notice of Intent (NOI) must be filed with the State Water Resources Control Board and a Storm Water Pollution Prevention Plan (SWPPP) must be implemented for this site. Contact the State Water Resources Control Board for additional information. ____

d. Add all the following Geotechnical Notes if required as a condition of approval:

(1) All recommendations included in the consultant's geotechnical report(s) must be complied with and are a part of the grading specifications. ____

(2) Grading operations must be conducted under periodic geologic inspection with monthly inspection reports to be submitted to the Engineering Geology and Soils Section. ____

(3) The consulting geologist must state that rough grading has removed geologic hazards in a final report prior to the approval by the Materials Engineering Division. The final report must include an As-Built Geologic Map. ____

(4) Foundation, wall and pool excavations must be inspected and approved by the _____ consulting geologist, _____ geotechnical engineer, prior to the placing of steel or concrete. ____

e. Add the following Planting and Irrigation Notes if required:

(1) The plans of a designed irrigation system for full coverage of all portions of the slopes shall be submitted and approved prior to rough grading approval by the County Inspector. (Section 7019(a) of the Building Code.) ____

(2) All cut slopes over five (5) feet and fill slopes over three (3) feet shall be planted with an approved ground cover and provided with an irrigation system as soon as practical after rough grading. (Section 7019(b) of the Building Code.) ____

(3) Planting and irrigation plans for slopes greater than 20 feet in height must be prepared and signed by a Licensed Landscape Architect or Registered Civil Engineer. ____

L. Additional Corrections: _____

_____

_____

_____

RCE No. _____

Grading P.C._____
D.O._____

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION
GRADING PLAN DRAINAGE REVIEW NOTES

Please add the notes to the grading plan:

( ) LAND DEVELOPMENT DIVISION NOTES (title)

( ) Provisions shall be made for contributory drainage at all times.

( ) Lots _____ will be subject to sheet overflow. Floors to be elevated 12 inches.

( ) Lots _____ will be subject to flood hazard until Private Drain No. _____ is operable. Building permits will be withheld until released by the District Building and Safety Engineer.

( ) A five-foot chain link fence, according to the latest revision APWA Standard Plan No.600 will be constructed along _____ as shown on this plan. A permit will be obtained from the Building and Safety Division.

( ) A combination concrete block wall and chain link fence, complying with County Engineer Standard D-63, will constructed along _____ _____ as shown on this plan. A permit will be obtained from the Building and Safety Division.

( ) A block wall complying with County Engineer Standard D-65 will be constructed along _____ _____

( ) Obtain written acceptance of outflow before P.C. approval from _____ _____ (discharge of drainage) (construction) within their right-of-way or property.

( ) Notify the State Department of Fish and Game prior to the commencement of work within the natural drainage course.

( ) Other. _____

DEPARTMENT OF PUBLIC WORKS - COUNTY OF LOS ANGELES
BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION - DRAINAGE AND GRADING SECTION

GRADING PLAN DRAINAGE REVIEW

Plan Check No. _____ District No. _____ Tract/PM No. _____

Log Date _____ [ ] First Submittal [ ] Resubmittal

Address _____

Developer _____ Engineer _____

This review encompasses provisions for offsite contributory drainage, interior drainage involving potential flood hazard, and for subdivisions, enforcement for the conditions of approval concerning flood hazard and drainage. Refer to the Grading Correction Sheet for additional requirements on interior lot and slope drainage.

[ ] Approved.

[ ] Prior to approval—Resubmit two (2) Sets of Revised plans with information and corrections as circled. Return this review sheet and check print and the following requested information:

_____ 1. All work is to be done under the direction of a registered civil engineer. All submitted documents must contain his/her signature along with stamp or seal and expiration date.

_____ 2. Any alteration of the natural drainage pattern, as a result of the proposed grading and construction, requires a drainage release covenant. Provide sufficient ground elevations to define existing and proposed drainage pattern.

_____ 3. Submit a notarized covenant as checked on the attached format and instructions for offsite grading and drainage.

_____ 4. Add the following notes as checked to the grading or drainage plan.

Drainage Notes

a. Provisions shall be made for contributory drainage at all times.

b. Lots _____ will be subject to sheet overflow. Floors to be elevated 12 inches.

c. Lots _____ will be subject to flood hazard until Private Drain No. _____ is operable. Building permits will be withheld until released by the District Building and Safety Engineer.

d. A five-foot chain link fence, according to the latest revision, APWA Standard Plan Standard Plan No. 600, will be constructed along _____ as shown on this plan. A permit will be obtained from the Building and Safety/Land Development Division.

e. A combination concrete block wall and chain link fence, complying with L.A.C.D.P.W. Standard 6004-0, will be constructed along _____ as shown on this plan. A permit shall be obtained from the Building and Safety/Land Development Division

f. A block wall, complying with L.A.C.D.P.W. Standard 6005-0, will be constructed along _____

g. Obtain written acceptance covenants before approval from _____ for (discharge of drainage) (construction) within their right-of-way.

h. Notify the State Department of Fish and Game prior to the commencement of work within the natural drainage course.

_____ 5. Submit a cost estimate of the drainage facilities to be constructed per grading plans.

_____ 6. Submit a hydrology study with two (2) copies of a drainage map and supporting calculations. Grading Plans will not be checked until the Hydrology Study is in "direct" check or approved.

_____ 7. The storm drain located at _____ must be submitted as a Private Drain and be maintained by the County of Los Angeles. Submit three (3) sets of Private Drain plans and a plan check deposit to the Alhambra Headquarters; telephone (818) 458-4950 for further details.

_____ 8. Identify the existing or proposed storm drain by Private Drain No._____.

_____ 9. Show details of all storm drains and drainage devices constructed under this plan including pipe sizes, invert elevations, type of construction material, inlet and outlet structures, energy dissipators, profiles, etc.

_____ 10. Provide hydraulic capacity analysis correlating the drainage devices shown on the grading plan to the hydrology study.

_____ 11. Provide adequate (splashwalls) (interceptor swales) to handle (debris) (high velocity) flows at locations shown on the plans.

_____ 12. Provide parkway drain(s) per L.A.C.D.P.W. Standard 3056-0 to discharge flows to street right-of-way.

_____ 13. Label floor elevations and adjacent grades to building pad(s) on plans. Provide 1% minimum grade to exit for landscaped surface and/or 1/2% minimum grade to exit for paved surfaces.

_____ 14. Provide and label a minimum 2% slope away from proposed building(s) and .2% away from property lines

_____ 15. This property is in a Federally designated flood hazard area. All work within Zone A must meet requirements of the National Flood Insurance Program (NFIP), Chapter 44, Section 60.3.

_____ 16. Obtain approval from the Los Angeles County Department of Public Works, Construction Division, Permits Section for construction and discharge of drainage within street right-of-way.

_____ 17. All storm drain work is to be done under continuous inspection of the Field Engineer. Weekly status reports shall be submitted by the Field Engineer to the local Building and Safety Office. To satisfy this add the following note to the grading plan: "The storm drain to be constructed under this plan will be inspected (by the grading inspector of the Building and Safety Division) (by the construction inspector of the Contract Administration and Construction Division)."

_____ 18. Show provisions for contributory drainage at _____.

_____ 19. Refer to comments in red on plans.

_____ 20. _____

_____

_____

Date: _____ Reviewed by: _____

Telephone (818) 458-4921

Approved by: _____

COUNTY OF LOS ANGELES
LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION

TO: _____
_____
_____

DATE _____

ATTN: _____

REVIEW OF HYDROLOGY STUDY

TRACT/P.M. NO. _____
ADDRESS _____
TRANSMITTAL DATE _____
USGS QUAD. _____

We have reviewed your Hydrology Study and is:

(___) APPROVED FOR AREA AND Q ONLY.

(___) The Flood Hazard Calcs submitted with your Hydrology Study are approved.

REVIEWED BY _____
(818) 458-4921

14-44

FL 1/10/89

COUNTY OF LOS ANGELES
LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION

TO: _____
_____
_____

DATE _____

ATTN: _____

REVIEW OF HYDROLOGY STUDY
"_____ CHECK"

TRACT/P.M. NO. _____
ADDRESS _____
TRANSMITTAL DATE _____
USGS QUAD._____

Your hydrology study has been reviewed and is disapproved. Make corrections as shown on the returned hydrology study and as noted below. Resubmit these sheets with check print and two (2) revised sets of the hydrology study for further consideration. Additional changes may be required as determined by further review.

(___) A supplemental plan check deposit of $ _____ will be required for hydrology study review.

DRAINAGE MAP COMMENTS:

(___) The on-site drainage map must be of a scale not greater than 1" = 100'.
(___) The off-site drainage map must be of a scale of not less than 1" = 1000'.
(___) Provide the civil engineer's signature, stamp and expiration date.
(___) Title block must read "Hydrology Study For _____."
(___) Provide a location map.
(___) Provide a North Arrow and scale.
(___) Provide a table showing the hydrologic design data used to calculate the Q's. (i.e. storm frequency, rainfall zone, soil type, DPA zone, burn factor, bulking factor, percent imperviousness, etc.)
(___) Clearly show proposed and existing drainage patterns.
(___) Show and label proposed and existing drainage devices and storm drain improvements identified by number or name. Indicate the Design Q and tributary area for each existing drain.
(___) Show and label street locations, names, slopes, and provide typical sections.
(___) Provide adequate topography to support the area boundary determinations.
(___) Show and label boundaries and acreages for each sub-area. Boundaries of sub-areas should be distinctly outlined with color.
(___) Show and label existing ridge lines.
(___) Clearly indicate Q's and summation of areas at locations where flows leave the site for conditions before and after development.
(___) Show and label main line design Q's and Q's for each sub-area. Sub-area Q's should be prorated to provide design Q's for all inlets and structures.
(___) Show and label summation of areas at every junction and at the outlet.

PL 11/17/8

DRAINAGE MAP COMMENTS (CONTINUED):

(___) Show and label time of concentration (tc) for each sub-area.
(___) Provide bulked Q's, clear water Q's, and debris potential volumes for debris producing areas, in accordance with LACFCD debris criteria.
(___) Provide drainage area and Q tributary to downdrains which discharge to streets across lot pads.

CALCULATIONS COMMENTS:

(___) A pre-development hydrology study and a post-development hydrology study will be required where the LACDPW determines there is an inadequate outlet.
(___) Q calculations may be done in accordance with either the LACDPW Rational Method Hydrology or the LACFCD Modified Rational Method for tributary areas of 100 acres or less.
(___) Q calculations must be done in accordance with the LACFCD Modified Rational Method for tributary areas greater than 100 acres.
(___) Time of concentration shall be determined by the Rational Method Hydrology.
(___) A catch basin or inlet study must be included and the tc for each sub-area must be calculated to determine the peak flowrate.
(___) The minimum tc that must be used is 5 minutes.
(___) OTHER COMMENTS:

REVIEWED BY :_____

(818) 458-4921

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION

GRADING AND DRAINAGE SECTION

IRRIGATION AND LANDSCAPE REQUIREMENTS

TRACT/PARCEL MAP NO. _____ PLAN CHECK NO. _____

SITE ADDRESS _____ DISTRICT OFFICE _____

COMPLETION DATE: _____ LOG DATE: _____

The following must be submitted as noted:

_____ 1. See comments on check plans.

_____ 2. Plans shall be drawn to scale on substantial paper and the planting may be superimposed over a copy of the grading plan. The location of each type of plant must be clearly shown.

_____ 3. Job location and the name and address of the owner or developer must be shown.

_____ 4. The names and addresses of the person responsible for the design and installation of theirrigation system must be shown.

_____ 5. Elevations or heights of the slopes to be covered for each lot must be shown.

_____ 6. Minimum water pressure available at each point of connection, usually at the meter must be noted on the plans.

_____ 7. Location and size of all piping, valves, meters, sprinkler heads and/or hose bibs must be shown. An isometric view of the worst case slope may be necessary.

_____ 8. Descriptions of the sprinkler heads by manufacturer's name, model number, nozzle diameter and water demand at the designed operating pressure must be submitted.

_____ 9. A statement of the water demand for each lot or system, including adequate allowance for any future buildings that may be supplied through the meter and piping.

_____ 10. The area intended to be covered by each sprinkler head, shown by shading or by arc or radius lines.

_____ 11. Detailed calculations by a civil engineer or a landscape architect to substantiate the water demand for the worst condition to be applied to all lots.

_____ 12. Pipe material types such a galvanized metal or plastic must be shown. All plastic pipe must buried 18 inches and have a compacted backfill.

_____ 13. A note that "The irrigation system must be tested in the field before final approval to verify design requirements," must be in the plan general notes.

_____ 14. A plumbing permit must be obtained for the irrigation system.

_____ 15 All plant material utilized throughout all slope areas must be shown on the plans and meet County and State Codes by possessing the following characteristics.

a. Deep-rooted plants needing a limited amount water.
b. Low maintenance requirement.
c. A high root to shoot ratio.
d. Tolerant of wind conditions.
e. Fire retardant.

_____ 16. Upon completion of the maintenance period, the Project Landscape Architect or Civil Engineer will inspect and approve all planting and irrigation installed. If the work is in conformance with the approved landscape drawings, a certification letter will be written by the Landscape Architect or Civil Engineer and submitted to the Developer, the Contractor and the Drainage and Grading Section.

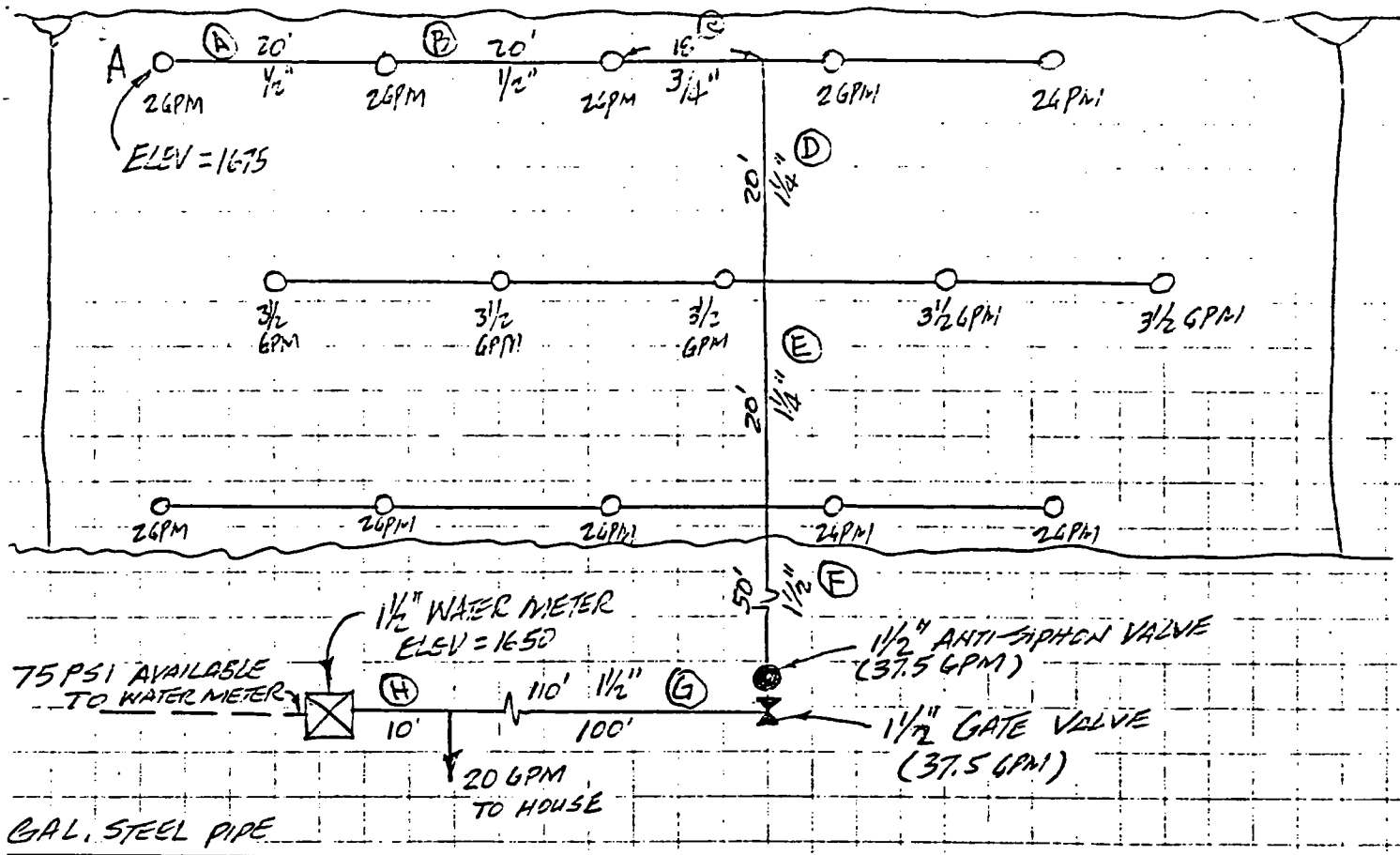
_____ 17. Slopes exceeding 15 feet in vertical height shall be planted with shrubs with spacing not to exceed 10 feet on centers; or trees with spacing not to exceed 20 feet on centers; or a combination of shrubs and trees at equivalent spacings.

_____ 18. All fill slopes in excess of three (3) feet in height and all cut slopes in excess of five (5) feet in height shall be planted with an approved ground cover.

_____ 19. All fill slopes in excess of three (3) feet in height and all cut slopes in excess of five (5) feet in height shall be installed with automatic sprinkler systems or hose bibs at conveniently accessible locations. The area served by the hose bib shall not be more than 50 feet away.

_____ 20. Copies of all reference materials must be submitted.

Reviewed by _____ .



	GPM	PIPE SIZE	LOSS IN 100 FT	RUN LENGTH	LOSS/RUN PSI
	2	1/2"	3.3	20'	0.7
	4	1 1/2"	11.8	20'	2.4
	6	3/4"	6.4	18'	1.2
D	10	1 1/4"	1.3	20'	0.3
E	21.5	1 1/4"	6.5	20'	1.3
F	37.5	1 1/2"	7.3	50'	3.7
G	37.5	1 1/2"	7.3	100'	7.3
H	57.5	1 1/2"	14.9	10'	1.5
			SUB TOTAL		18.9

TOTAL LOSS CALC. FOR SECTION A	18.9
FITTING LOSS (10%)	1.9
1 1/2" ANTI-SIPHON VALVE	1.9
1 1/2" GATE VALVE	3.5
1 1/2" WATER METER	7.2
MIN. PRESSURE REQUIRE FOR SPRINKLER HEAD (A)	20.0
ELEV. AT WATER METER = 1650.0	
ELEV. AT SPRINKLER HEAD A = 1675.0	
25 x 0.433	10.8
SUB TOTAL	64.5
AVAILABLE PRESSURE	75.0
RESIDUAL	10.5

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION
GRADING AND DRAINAGE SECTION
GRADING CORRECTION SHEET

EROSION CONTROL PLAN CORRECTION SHEET

PAGE 1 OF 4
DATE_____

_____
SITE ADDRESS

_____ _____ (_____) _____
TRACT/PM NO. DISTRICT NO. GRADING PLAN CHK.# LOG DATE

_____ (___)_____
DESIGN ENGINEER/APPLICANT TELEPHONE NO.

_____ (___)_____
OWNER TELEPHONE NO.

_____ _____ _____
CHECKER ENTRY DATE PLAN CHECK EXPIRES

ENGINEERED GRADING [ ]

We have reviewed the Erosion Control Plans submitted _____ for conformity with the Codes (See Chapter 31.) Make corrections as shown on the returned set of plans and as noted below:

A. REQUIRED SUBMITTALS

_____ 1. Resubmit check prints and three (3) revised sets of plans for further consideration.

_____ 2. After the plans are approved, submit two (2) sets of the approved plans to the District Office where the permit was issued.

_____ 3. A supplemental plan check fee of $_____ will be required for Erosion Control Plan review.

B. GENERAL COMMENTS:

_____ 1. Outline the drainage area and graded area, and submit calculations on or attached to the plans to demonstrate that the design of the proposed erosion control devices will meet or exceed County Standards. Use 50 cu.yd./acre debris accumulation parameter unless a lower rate is approved based upon recommendations of the Soils Engineer. Runoff flow must be based on the hydrology study.

_____ 2. Provide cross-sections on the plans and detailed calculations demonstrating that the catchment area will have sufficient debris storage capacity.

_____ 3. Provide an orifice and pipe size for clear water discharge through the top of the dam and into the standpipe system and calculations demonstrating that both will pass peak flows based on a design 25 year storm. This includes the number and size of perforations in the standpipe and its minimum height and the pipe size and slope passing flows through the dam.

_____ 4. Provide for a weir to handle flows over the top of the dam and calculations demonstrating that the weir will handle 1.5 times the peak flow based on a design 50 year storm.

_____ 5. Show in detail the Check dam. If the capacity is less than 1600 cubic yards, Detail 3 in Chapter 31 may be used. If the capacity is greater, use Detail 5 in that same chapter.

_____ 6. Erosion Control Devices are required to prevent debris flow onto adjacent properties, adjacent roadways, and into natural drainage courses.

_____ 7. Indicate on the plans all drainage devices, including Private Drains (P.D.'s), culverts, lot drains, paved streets, drainage devices, drainage scales, terrace drains, down drains, catch basins, etc. that will be operable on November 1. In addition note if the irrigation system is operable and the planting established on that date.

_____ 8. Desilting facilities will be required if any of the devices noted in Item 7 above are not operable by November 1.

_____ 9. Erosion debris from fill slopes located at the site perimeter adjacent to offsite developed property must be controlled by the use of sand bag slough walls, plastic sheeting, or by a combination of both.

_____ 10. Desisting basins or excavated pits are required at all street outlets from the graded site, or as indicated on the plans.

C. SPECIFIC COMMENTS:

_____ 1. Revise and/or add Erosion Control Plan Notes per attached sheet. At the downhill side of intersecting streets and at the locations indicated on the returned plans, check dams should be provided in accordance with Item B, 5 above.

_____ 2. Grate-type yard catch basins must be encircled with sandbags having one (1) layer for each foot of width of catch basin.

_____ 3. Catch basins by curbs must have the manhole cover removed, a stand-pipe fitted into the manhole opening and sandbags sealing the catch basin opening. The entire catch basin must be encircled by one (1) row of sandbags two (2) layers high above parkway surface. Provide Detail No. 2.

_____ 4. On unpaved streets check dams should be provided in accordance with Detail No. 4. The following minimum spacing should be used, unless calculations are submitted to justify increased spacing:

SLOPE	CHECK DAM INTERVAL
Less than 5%	100 feet on center (oc)
5% to 10%	50 feet oc
Greater than 10%	25 feet oc

_____ 5. Outline the drainage area and graded area tributary to each desilting basin for conditions as of November 1, and each stage thereafter. Indicate the acres for each of these tributary areas. Use 50 cu.yd./acre for the required basin volume unless a lower rate is approved based upon recommendations of the Soils Engineer. Refer to the approved hydrology study for the appropriate peak flow from a design 50 year storm which is multiplied by 1.5 to determine the spillway design flow. Submit calculations for the spillway width (W).

_____ 6. All desisting facilities constructed with a pipe which outlets directly into a storm drain must be designed to prevent entry of debris into the system. Pipes at grade on the upstream side of the facility will not be allowed.

_____ 7. Pumps capable of draining desisting basins within 24 hours shall be provided where installation of gravity drain pipes is impractical.

_____ 8. Provide a dike to direct flow to desisting basins or pits. Dike must be lined with concrete, sandbags, or other nonerodible materials.

_____ 9. See additional comments marked in red on returned plans.

_____ 10. OTHER COMMENTS:

REVIEWED BY :_____

(818) 458-4921

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

EROSION CONTROL PLAN NOTES

1. In case of emergency, call _____(Responsible Person)_____ at _____(24 hour telephone)___.

2. A stand-by crew for emergency work shall be available at all times during the rainy season (NOV 1 to APR 15). Necessary materials shall be available on site and stockpiled at convenient locations to facilitate rapid construction of emergency devices when rain is imminent.

3. Erosion control devices shown on this plan may be removed when approved by the grading inspector if the grading operation has progressed to the point where they are no longer required.

4. Graded areas adjacent to fill slopes located at the site perimeter must drain away from the top of slope at the conclusion of each working day.

5. All silt and debris shall be removed from all devices within 24 hours after each rainstorm.

6. A guard shall be posted on the site whenever the depth of water in any device exceeds two feet. The device shall be drained or pumped dry within 24 hours after each rainstorm.

7. Except as otherwise approved by the Grading Inspector, all removable protective devices shown shall be in place at the end of each working day or on weekends when the 5 day rain probability forecast exceeds 40%.

8. All loose soil and debris which may create a potential hazard to offsite property shall be removed from the site as directed by the Grading Inspector.

9. The placement of additional devices to reduce erosion damage within the site is left to the discretion of the Field Engineer.

10. Desilting basins may not be removed or made inoperable between November 1 and April 15 of the following year, without the approval of the County Inspector.

11. Erosion control devices are to be modified as needed as the project progresses, and plans of these changes must be submitted for approval as required.

GUIDELINES

INTRODUCTION

These guidelines provides the basic hydrology, hydraulic, structural and other requirements for most storm drain connection proposals submitted to the Department of Public Works, Construction Division, Permit Section.
The plans and supporting calculations must be in sufficient detail to assure that the proposed connections will not adversely affect the hydraulic and structural integrity of the existing storm drain. Your proposal must also provide adequate protection to the general public and give enough information so that the inspector will know exactly what work will be performed.

10-30-91

"GUIDELINES"

To promptly obtain a permit to connect to a Los Angeles County Flood Control District (LACFCD) facility, submit the following:

I. Permit application.

II. Plan checking and inspection fees.

III. Signed and stamped hydrology calculations. (Including hydrology map and a copy of site plan which shows contour lines or elevations 25 feet beyond property lines.)

IV. Signed and stamped hydraulic calculations.

V. Four sets of plans. (Six sets if connecting to a U.S. Army Corps of Engineers constructed channel.)

VI. Submit a copy of the L.A. County project plan showing the plan and the profile of the existing line at the point of connection.

NOTES:

* Restamped and signed copies of the Department's "as-built" or final construction plans that have been altered for additional drainage connections are not acceptable for Los Angeles County Department of Public Works permit purposes. (The only stamp on the plan must be the design engineer's stamp who is applying for the permit.)

* Before submitting an application for a permit, make sure the line you are connecting to is maintained by LACFCD.

* If connecting to a P.D. or M.T.D., make sure that the line has been transferred and is being maintained by LACFCD If the line is not transferred yet, the permit will not be issued by this Section and instead you will need to obtain a letter of "non-objection" from Land Development Division.

* Additional comments or requirements may be applicable and not covered in these guidelines.

* Plans that are required to be reviewed by the Department of Public Works Water Quality Section and/or Corps of Engineer will be forwarded to them by this section.

* Department of Public Works water quality clearance is required, prior to issuance of the permit.

* All drainage connection proposals to a storm drain (in an easement) which is submitted, involving work other than a connection to the storm drain, will be forwarded to the 10th Floor Permit Section, Mapping and Property Management. You may submit to the 10th floor Permit Section directly.

14-55

I. PERMIT APPLICATIONS

- The owner shall be the person (permittee) liable to maintain the proposed line unless other arrangements are made.

- Put complete street address and phone number on the permit application for the owner and the applicant (agent of the owner) and please print legibly.

II. FEES

Listed below are some of the plan check and inspection fees set by County Ordinance for Connections.

A. Plan checking fees

less than 8" pipe diameter	$50
8" to 24" pipe diameter	$100
over 24" pipe diameter	$250
new manhole	$250

B. Inspection fees

8" pipe diameter or less	$200	(each)
over 8" to 24"	$300	(each)
over 24"to 33"	$450	(each)
over 33"to 60"	$600	(each)
over 60"	$875	(each)
flap gate	$75	(each)
M.H. inspection	$250	(each, minimum)
one C.B. relocation	$200	
two C.B. relocation	$275	(same intersection)
three C.B. relocation	$375	(same intersection)
four C.B. relocation	$475	(same intersection)
five C.B. relocation	$550	(same intersection)
abandon C.B.	$75	

C. Amendment to permit $50

D. Extend permit time $25

* These fee's are to be used for estimate only.

* Only one plan check fee will be charged; it will be based on the largest connection size or most extensive activity. The inspection fee is the sum of all the connections and other activities to be authorized, as shown on the plans.

* The permit writer will determine the actual fees.

III. HYDROLOGY CALCULATIONS:

A. Show drainage area map and "Q" generated, computed by a method that is compatible with the method used to develop the design hydrology for the affected storm drain. (The design frequency of the proposed connecting facility must match the outlet drain frequency.)

B. Show off-site "Q" affecting your proposed facility.

C. Diversions will be considered on an individual basis. In order for a diversion proposal to be approved, you must show conclusively that your proposal will not adversely affect our facility or area served by our facility.

NOTE: The "Q" that will be authorized is what was originally tabled from the proposed site to our facility.

IV. HYDRAULIC CALCULATIONS:

A. Identify the hydraulic grade line of existing LACFCD facility.

B. Show hydraulic calculations for sizing the connections to pick up authorized "Q" only.

C. Show the effect of your proposal "Q" on LACFCD hydraulic grade line. Review the effects of hydraulic grade line changes on catch basin systems as necessary.

D. Show capacity of your proposed pipe.

V. SUBMIT FOUR SETS OF PLANS, showing the following information:

A. Show the alignment and label the main line with the project number or stream name.

B. Indicate the main line storm drain stations at all points of work that affect LACFCD facilities.

Note: Mid-line connections to connector pipe are not allowed.

C. Show profile of the proposed line with the following items if to be maintained by LACFCD:

1. Slope, (min. 1.0% for connector pipes).

2. Size of pipe (Min. 18" for connector pipe and 24" min. for laterals and mainlines).

3. Use reinforced concrete pipe (RCP) and show D-load.

NOTE: Remember to research utilities, verify utility location and design accordingly. Show all utilities affecting your design on plan and profile view.

D. Plans must be signed by a registered Civil/Structural Engineer licensed to practice in State of California.

E. Plans stamped "preliminary" or "not for construction" etc. are not acceptable for permit issuance.

F. You must call out the district standard drawing number or APWA drawing number for all connections. If not per standard, show detail of connection (allow additional time for review). (Manuals for standard drawings can be purchased at the cashier's office, west side of main lobby, 900 South Fremont Avenue, Alhambra.)

G. Label the proposed line as to whether it is to be maintained by LACFCD or not.

H. You must show plan and profile for all connections. (show north arrow & scale)

I. For any size pipe, ACP and CMP are not acceptable.

J. Most commonly used types of connections and their requirements are:

1. When directly connecting to main line:

- Show invert elevation of main line and of your proposed pipe at point of connection. Also show elevation of the top of grate or inlet on site.

- Show slope of the pipe.

2. Connection to back or side of catch basin.

- The point of discharge shall not be on the steps of the catch basin.

- Only one connection for a catch basin is allowed.

- For pipes larger than 12 inches, you must show detail of connection and submit calculation showing no adverse structural or hydraulic condition occurs in catch basin.

- Show invert elevation of catch basin and your proposed pipe at point of connection and top of grate elevation of inlet on site.

3. DIRECT CONNECTION TO A CHANNEL

- Show the alignment and label the channel with LACFCD or Corps name.

- Show channel stationing at point of connection (centerline intersection).

- Show profile of proposed pipe including top of channel and invert of channel and proposed inlet elevations.

- A flapgate will be required when the elevation of a proposed inlet is below the top of the channel wall.

- Angle of confluence must meet Corps of Engineers criteria.

- For Corps Channels, soffit of connecting pipe should be min. 4 feet below the design water surface of channel.

- If the channel is constructed or maintained by Corps of Engineers, submit two additional copies of the plans for their review. Type of connection must be per Corps of Engineers (show structural detail on the drawings).

4. CATCH BASIN RELOCATION

- Need min. 1% slope for proposed connector pipe.

- Call out D-load for pipe.

- Indicate the horizontal deflection angle of the connector pipe not to exceed 30 degrees on plan.

- If the horizontal deflection angle of the connector pipe is larger than 30 degrees, you must use a manhole. (If a manhole is used, there will be an additional $250 inspection fee and the plan check fee will be $250.)

- Only one angle point per connector pipe is allowed.

- Call out abandonment of connector pipe and removal of catch basin. (abandoned pipe must be sealed at both ends with 6" concrete or 8" brick and mortar and filled with dry inert material).

- If a different size catch basin or "V-depth" or a different local depression is used, submit calculations to show that capacity of proposed catch basin will meet the original design requirements. (If identical catch basin and local depression is used, hydrology and hydraulic calculations are not required.)

- Indicate type of local depression on plan for catch basins located at corners of intersections. Be sure to dimension as required by the new APWA standard drawings.

- For catch basins located at corners of intersections, submit a plan or 8½x11 sketch that shows elevations of top of curb and flow lines at BC and EC and mid-point of curb return and 50' beyond on both sides.

  NOTE: If existing catch basin is located at a low point (i.e. sump condition) and proposed relocation of catch basin is to be upstream of the low point, no ponding of nuisance water will be allowed in the low point where existing catch basin is removed.

VI. A copy of the plan showing LACFCD facility may be obtained from the map vault in the lobby or Survey Division located on the 3rd floor of the Department of Public Works, 900 South Fremont Avenue in Alhambra.

MN:le/GUIDE

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
FOR LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331

MAILING ADDRESS
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

PERMIT APPLICATION

DISTRICT PROJECT AFFECTED: _____ FILE CODE: _____

DISTRICT DRAWINGS NOS. _____ STATION: _____

The applicant must show that the proposed work will not adversely affect the District's interest; ie., (1) Hydraulic and Hydrology Design; (2) Structural integrity; (3) Maintenance standards; (4) District's property rights, etc. Applicant must complete the following portion of the application:

OWNER: _____ TELEPHONE: _____

ADDRESS: _____
street city zip code

APPLICANT/AGENT: _____ TELEPHONE: _____

ADDRESS: _____
street city zip code

SITE ADDRESS: _____
street city zip code

NEAREST INTERSECTION: _____ THOMAS GUIDE: _____

DESCRIPTION OF THE WORK FOR WHICH PERMIT IS REQUESTED:

1. Construct Transer Drain: P.D. No. _____ M.T.D. No. _____ R.D.D. No. _____
2. Other: _____

_____

_____

_____

PERSON/AGENCY RESPONSIBLE FOR THE MAINTENANCE OF THE PROPOSED FACILITY: _____

_____ TELEPHONE: _____

ESTIMATED START DATE: _____ ESTIMATED COMPLETION DATE: _____

_____ _____ _____
Print Name of Person Applying Signature of Applicant Date

Please submit the following with your application:

1. Four sets of final construction plans with structural details and profiles of the existing and proposed facilities.
2. One set of letter size structural and/or hydraulic and hydrology calculations. The plans and calculations must be signed by a registered civil/structural engineer licensed to practice in the State of California.
3. Fees will be charged according to current ordinance established by the Board of Supervisors. The estimated fees are:
   Plan check fee $ _____ Inspection Fee $ _____ Security Deposit $_____

9-85

14-61

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

CALIFORNIA COASTAL COMMISSION
SOUTH COAST AREA
245 W. BROADWAY, STE. 380
P.O. BOX 1450
LONG BEACH, CA 90802-4416
(310) 590-5071

APPLICATION FOR COASTAL DEVELOPMENT PERMIT

COMPLETE THIS APPLICATION FORM FOR BOTH ADMINISTRATIVE AND STANDARD PERMITS. COASTAL COMMISSION STAFF WILL DETERMINE THE PERMIT TYPE AFTER REVIEW OF YOUR COMPLETE APPLICATION PACKAGE.

SECTION I. APPLICANT

1. Name, mailing address and telephone number of all applicants.

_____

_____

_____

(Area code/daytime phone number)

2. Name, mailing address and telephone number of applicant's representative, if any

_____

_____

_____

(Area code/daytime phone number)

For office use only

Application Number _____ Project Cost _____

Received _____ Filed _____ Jurisdiction code _____

Fee _____ Date paid _____ LCP segment _____

Tentative hearing date _____

6280E

3. Conflict of Interest. All applicants for the development must complete Appendix A, the declaration of campaign contributions.

SECTION II. PROPOSED DEVELOPMENT

Please answer ALL questions. Where questions do not apply to your project (for instance, project height for a land division), indicate "Not Applicable" or "N.A."

1. Project Location. Include street address, city, and/or county. If there is no street address, include other description such as nearest cross streets.

_____
number (8) street (9)

_____
city (10) county (11)

Assessor's Parcel Number_____

2. Describe the proposed development. Include secondary improvements such as septic tanks, water wells, roads, etc.

_____

_____

_____

_____

a) If residential, state:

1) Number of units_____(28)

2) Number of bedrooms per unit_____(28)

3) Type of ownership proposed: ☐ rental
☐ condominium
☐ stock cooperative
☐ time share
☐ other_____

b) Number of boat slips, if applicable_____(29)

c) If land division, number of lots to be created and size_____

_____

_____

3. Present use of property.

a) Are there existing structures on the property? ☐ Yes ☐ No
If yes, describe (including number of residential units, occupancy status, monthly rental/lease rates for each unit) and schedule of rents for past year.

_____

_____

_____

b) Will any existing structures be demolished? ☐ Yes ☐ No
Will any existing structures be removed? ☐ Yes ☐ No
If yes to either question, describe the type of development to be demolished or removed, including the relocation site, if applicable.

_____

_____ (31)

4. Estimated cost of development (not including cost of land) $_____ (32)

5. Has any application for a development on this site been submitted previously to the California Coastal Zone Conservation Commission or the Coastal Commission? ☐ Yes ☐ No

If yes, state previous application number_____

6. Project height: Maximum height of structure_____ ft
Maximum height of structure as measured from centerline of frontage road_____ ft

7. Total number of floors in structure, including subterranean floors, lofts, and mezzanines_____

8. Gross floor area including covered parking and accessory buildings_____ sq ft

Gross floor area excluding parking_____ sq ft

9. Lot area (within property lines)_____ sq ft or acres

Lot coverages:	Existing	New proposed	Total
Building coverage	_____ sq ft	_____ sq ft	_____ sq ft
Payed area	_____ sq ft	_____ sq ft	_____ sq ft
Landscaped area	_____ sq ft	_____ sq ft	_____ sq ft
Unimproved area	_____ sq ft	_____ sq ft	_____ sq ft

14-64

10. Parking: number of spaces existing _____
number of new spaces proposed _____
Total _____

no. of covered spaces _____ no. of uncovered spaces _____
no. of standard spaces _____ size _____
no. of compact spaces _____ size _____
Is tandem parking existing and/or proposed? ☐ Yes ☐ No
If yes, how many tandem sets? _____ size _____

11. Are utility extensions for the following needed to serve the project?

a) water ☐ Yes ☐ No
b) gas ☐ Yes ☐ No
c) electric ☐ Yes ☐ No
d) sewer ☐ Yes ☐ No
e) telephone ☐ Yes ☐ No

I yes to any of the above, would extensions be above ground? ☐ Yes ☐ No

12. Is the project site adjacent to a public maintained road? ☐ Yes ☐ No
If yes, how far is the nearest public road. _____

SECTION III. ADDITIONAL INFORMATION

The relationship of the development to the applicable items below must be explained fully. Attach additional sheets if necessary.

1. If the development is between the first public road and the sea, is public access to the shoreline and along the coast currently available near the site? ☐ Yes ☐ No If yes, indicate the location of the nearby access, including the distance from the project site.

_____

_____

2. Is any grading proposed? ☐ Yes ☐ No If yes, complete the following.

a) amount of cut _____ cu yds
b) amount of fill _____ cu yds
c) maximum height of fill slope _____ ft
d) maximum height of cut slope _____ ft
e) amount of import or export _____ cu yds
f) location of borrow or disposal site _____

Grading and drainage plans must be included with this application. In certain areas, an engineering geology report must also be included. See Section V, paragraph 11 for the specifics of these requirements.

3. Does the development involve diking, filling, dredging or placing structures in open coastal waters, wetlands, estuaries, or lakes?

a) diking ☐Yes ☐No c) dredging ☐Yes ☐No

b) filling ☐Yes ☐No d) placement of structures ☐Yes ☐No

Amount of material to be dredged or filled_____cu yds.

Location of dredged material disposal site_____

_____

Has a U.S. Army Corps of Engineers permit been applied for? ☐Yes ☐No

4. Will the development extend onto or adjoin any beach, tidelands, submerged lands or public trust lands? ☐Yes ☐No

For projects on State-owned lands, additional information may be required as set forth in Section V, paragraph 10.

5. Will the development protect existing lower-cost visitor and recreational facilities? ☐Yes ☐No

Will the development provide public or private recreational opportunities? ☐Yes ☐No If yes, explain.

_____

_____

6. Will the proposed development convert land currently or previously used for agriculture to another use? ☐Yes ☐No

If yes, how many acres will be converted?_____acres.

7. Is the proposed development in or near:

a) sensitive habitat areas ☐Yes ☐No (biological survey may be required)

b) 100-year floodplain ☐Yes ☐No (hydrologic mapping may be required)

c) park or recreation area ☐Yes ☐No

8. Is the proposed development visible from:

a) US Highway 1 or other scenic route ☐Yes ☐No

b) park, beach, or recreation area ☐Yes ☐No

c) harbor area ☐Yes ☐No

9. Does the site contain any:

a) historic resources ☐Yes ☐No

b) archaeological resources ☐Yes ☐No

c) paleontological resources ☐Yes ☐No

If yes to any of the above, please explain on an attached sheet.

10. Where a stream or spring is to be diverted, provide the following information:

Estimated streamflow or spring yield _____ gpm

If well is being used, existing yield _____ gpm

If water source is on adjacent property, attach Division of Water Rights approval and property owner's approval.

SECTION IV. OTHER GOVERNMENTAL REQUIREMENTS

The Local Agency Review Form, Appendix E, must be completed and signed by the local government in whose jurisdiction the project site is located. The completed and signed form must be submitted with this application for the application to be considered complete.

SECTION V. ADDITIONAL ATTACHMENTS

The following items must be submitted with this form as part of the application.

1. Proof of the applicant's legal interest in the property. (A copy of any of the following will be acceptable: current tax bill, recorded deed, signed Offer to Purchase along with a receipt of deposit, signed final escrow document, or current policy of title insurance. Preliminary title reports will not be accepted.)

2. Assessor's parcel map(s) showing the applicant's property and all other properties within 100 feet (excluding roads) of the property lines of the project site. (Available, along with owner's names/addresses, from assessor's office.)

3. Copies of required local approvals for the proposed project, including zoning variances, use permits, etc., as noted on Local Agency Review Form, Appendix B.

4. Stamped envelopes addressed to each property owner and occupant of property situated within 100 feet of the property lines of the project site (excluding roads), along with a list containing the names, addresses and assessor's parcel numbers of same. If the application qualifies for an administrative permit, envelopes are not required unless specifically requested. However, a mailing list is required on all applications. The envelopes must be plain (i.e., no return address), and regular business size (9½" x 4 1/8"). Include first class postage on each. Metered stamped envelopes cannot be accepted. The words "Important Public Hearing Notice" must be on the front of each envelope. (An appropriate stamp is available in the District Office. Use Appendix C, attached, for the listing of names and addresses. (Alternate notice provisions may be employed at the discretion of the District Director under extraordinary circumstances).

5. Stamped, addressed envelopes and a list of names and addresses of all other parties known to the applicant to have an interest in the proposed development (such as persons expressing interest at a local government hearing, etc.).

6. Development location and vicinity maps. Maps should show precisely where the development is proposed and present land and water uses in the project vicinity. U. S. Geological Survey 7½ minute series quadrange map, Thomas Brothers map, road map or area maps prepared by local governments may provide a suitable base map.

14-67

7. Two copies of project plans, except for projects located in the City of Los Angeles where three sets are required, stamped and signed "Approved in Concept" by the local building department, drawn to scale, including site plans, floor plans, elevations, grading and drainage plans, landscape plans, and septic system plans. A reduced site plan, 8½" x 11" must also be submitted. Reduced copies of complete project plans will be required for large projects. Trees to be removed must be marked on the site plan. For demolitions, include a site plan showing the placement and dimensions of existing development on subject lot. Photographs may be submitted to show elevations and demolitions.

8. Where septic systems are proposed, evidence of County approval or Regional or Regional Water Quality Control Board approval. Where water wells are proposed, evidence of County review and approval.

9. A copy of any Final Negative Declaration, Final Environmental Impact Report (FEIR) or Final Environmental Impact Statement (FEIS) prepared for the project. Comments of all reviewing agencies and responses to comments must be included.

10. Verification of all other permits, permissions or approvals applied for or granted by public agencies (e.g., Dept. of Fish and Game, State Lands Commission, U.S. Army Corps of Engineers, U.S. Coast Guard).

11. For development on a bluff face, bluff top, or in any area of high geologic risk, a comprehenisive, site-specific geology and soils report (including maps) prepared in accordance with the Coastal Commission's Interpretive Guidelines. Copies of the guidelines are available from the District Office.

SECTION VI. NOTICE TO APPLICANTS

Under certain circumstances additional material may be required prior to issuance of a coastal development permit. For example, where offers of access or open space dedication, preliminary title reports, land surveys, legal descriptions, subordination agreements, and other outside agreements will be required prior to issuance of the permit.

The Commission may adopt or amend regulations affecting the issuance of coastal development permits. If you would like notice of such proposals during the pendency of this application of such proposals that are reasonably related to this application indicate that desire.

☐ Yes ☐ No

SECTION VII. AUTHORIZATION OF AGENT

I hereby authorize _____
to act as my representative and to bind me in all matters concerning this application.

_____
Signature of Applicant(s)

SECTION VIII. CERTIFICATION

1. I hereby certify that I, or my authorized representative, will complete and post the Notice of Pending Permit card in a conspicuous place on the property within 3 days of receipt of the card and notification of filing of this application.

2. I hereby certify that I understand the Commission may impose reasonable conditions that must be satisfied by persons that are not a party to this application and that prior to issuance of the permit, I must submit evidence that the conditions will be satisfied by the appropriate parties.

3. I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attached appendices and exhibits is complete and correct. I understand that any misstatements or omission of the requested information or of any information subsequently requested shall be grounds for denying the permit, for suspending or revoking a permit issued on the basis of these or subsequent representations, or for seeking of such further relief as may seem proper to the Commission.

4. I hereby authorize representatives of the California Coastal Commission to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 5:00 p.m.

SECTION XIV. COMMUNICATION WITH COMMISSIONERS

Decisions of the Coastal Commission must be made on the basis of information available to all commissioners and the public. Therefore permit applicants and interested parties and their representatives are advised not to discuss with commissioners any matters relating to a permit outside the public hearing. Such contacts may jeopardize the fairness of the hearing and result in invalidation of the Commission's decision by court. Any written material sent to a commissioner should also be sent to the commission office for inclusion in the public record and distribution to other Commissioners.

Signature of Authorized Agent or Applicant(s)

CALIFORNIA COASTAL COMMISSION

45 Fremont Street, Suite 2000 San Francisco, CA 94105–2219 • (415) 904–5200

The California Coastal Commission has 12 voting members and 3 non-voting members. Six of the voting members are "public members," and six are local elected officials who come from specific coastal districts. All voting members are appointed either by the Governor, Senate Rules Committee, or the Speaker of the Assembly; each appoints four commissioners, two public members and two elected officials. Each Commissioner may appoint an alternate to serve in his or her absence. The Secretaries of the Resources Agency and the Business and Transportation Agency and the Chair of the State Lands Commission serve as non-voting members and may appoint a designee to serve in their place.

ROSTER OF COMMISSIONERS

Governor's Appointments	Senate Rules Committee Appointments	Assembly Speaker Appointments
Louis R. Calcagno *10/13/92 P.O. Box 62 Moss Landing, CA 95039 (408) 633–2289	**Lily Cervantes**, Vice Chairman *10/01/87 *(Please mail all correspondence* **8/23/89 *to headquarter's address)* **9/23/91	**Diana Doo** *5/11/92 203 South Arnaz Drive #B Beverly Hills, CA 90211–2832 (310) 652–5660
William Rick *2/14/92 5620 Friars Road San Diego, CA 92110–2596 (619) 291–0707	**Madelyn Glickfeld** *9/11/87 21132 Las Flores Mesa Drive **8/23/89 Malibu, CA 90265–5233 **9/23/91	**Thomas W. Gwyn**, Chairman *2/09/90 Director, Public/Governmental Affairs Port of Oakland 530 Water Street Oakland, CA 94607–3746 (510) 272–1446
North Coast District Representative	**North Central Coast Representative**	**Central Coast District Representative**
Bonnie Neely *10/07/88 Chairwoman **9/26/90 Board of Supervisors Humboldt County Courthouse, 5th St., #111 Eureka, CA 95501–1172 (707) 445–7694	**Gary Giacomini** *2/07/90 Marin County Board of Supervisors **1/29/92 Civic Center San Rafael, CA 94903–4193 (415) 499–7331	**Jane Yokoyama** *12/12/91 *(Please mail all correspondence* *to headquarter's address)*
South Central Coast District Representative	**South Coast District Representative**	**San Diego Coast District Representative**
Dorill Wright *2/17/83 405 San Miguel Circle **4/10/85 Port Hueneme, CA 93041–3010 **4/22/87 (805) 488–3145 (home) **7/02/89 (805) 488–3625 (work) **4/27/93	**Linda Moulton–Patterson** *7/17/91 Councilwoman, City of Huntington Beach 501 - 20th Street Huntington Beach, CA 92648 (714) 536–5553	**Leon L. Williams** *1/20/93 Supervisor, County of San Diego 1600 Pacific Highway San Diego, CA 92101 (619) 531–5544

The three non-voting members below are appointed by their respective agencies

Resources Agency Representative	State Lands Commission Representative	Business, Transportation and Housing Agency Representative
William Shafroth *7/15/91 Resources Agency 1416 Ninth Street, Room 1311 Sacramento, CA 95814–5570 (916) 653–5672	**Dwight Sanders** *6/11/81 Executive Office **4/26/83 State Lands Commission 1807 - 13th Street Sacramento, CA 95814–7187 (916) 322–7827	**Ms. Jan Hall** *7/19/91 Deputy Secretary Business, Transportation and Housing Agency 801 K Street, Suite 1918 Sacramento, CA 95814–3520 (916) 323–5400
	Executive Director	*Appointment dates (for approximately 2 years)
Revised May 12, 1993	Peter M. Douglas	**Reappointment dates

14-70

Vacant (For Calcagno)	**Jeff Mori** (For Gwyn) Executive Director Japanese Community Youth Council 1596 Post Street San Francisco, CA 94109 (415) 563–8052	**Nancy Flemming** (For Neely) City of Eureka, City Hall 531 K Street Eureka, CA 95501 (707) 442–4565	**Jerry Diefenderfer** (For Wright) 12325 Soda Lake Road Santa Margarita, CA 93453 (805) 475–2289
Lynne Todd Edgerton (For Rick) 400 South Plymouth Blvd Los Angeles, CA 90020–4708 (213) 937–0948	**John Hisserich** (For Cervantes) University of Southern California 1985 Zonal Avenue Los Angeles, CA 90033–1058 (310) 342–2077	**Ernest Carpenter** (For Giacomini) Supervisor, County of Sonoma 575 Administration Drive #100A Santa Rosa, CA 95403–2887 (707) 527–2241	**Jacqueline Rynerson** (For Moulton–Patterson) 2864 Allred Street Lakewood, CA 90712–3304 (310) 423–5612
Vacant (For Doo)	**Carole B. Stevens** (For Glickfeld) 16611 Park Lane Circle Los Angeles, CA 90049 (310) 476–6065	**Edward Vincent** (For Yokoyama) Mayor, City of Inglewood One Manchester Blvd./PO Box 6500 Inglewood, CA 90301 (310) 412–5300	**David L. Malcolm** (For Williams) 625 Third Avenue Chula Vista, CA 92010–5791 (619) 475–4522 (home) (619) 425–7080 (work)

NEW EX PARTE COMMUNICATION REQUIREMENTS

4-71

As of January 1, 1993, significant new ex parte requirements affecting communications with Commissioners go into effect. (Public Resources Code, sections 30319–30324.) These stringent new provisions of law may have serious consequences. **Anyone** wishing to communicate with a Commissioner about any matter pending before the Commission should read and abide by the guidelines below. The following guidance covers **most** of the new requirements.

- **No** written materials should be sent to Coastal Commissioners **unless** the Commission staff receives copies of **all** of the same materials at the same time.
- **All** materials transmitted to Commissioners should clearly indicate (e.g., on the cover page or envelope) that they have also been forwarded to the staff. Materials that do not show that copies have been provided to staff might not be accepted, opened or read by Commissioners. In these cases, **no** ex parte communication has occurred.
- **Messages** of a non-procedural nature (e.g., substantive) should **not** be left for a Commissioner. These include telephone, FAX, telegraphic or other forms of message.
- **All** oral or written communications of a non-procedural nature by an "interested person" that are **not** made according to the above procedures are ex parte communications which are prohibited **unless** publicly reported by the Commissioner. If the Commissioner does not report the communication, the Commission's action that was the subject of the communication may be revoked and penalties may result.
- Coastal Commission decisions must be made on the basis of information available to all commissioners and the public. Therefore, copies of communications made to Commissioners that are forwarded to staff will be included in the public record. Public records are available for inspection at Commission meetings or in the Commission's office.

NOTE: *The purpose of these new legal requirements is to protect due process and fairness in the Commission's decision-making process. Failure to follow them* ***could*** *lead to fines, revocation of permits and substantial costs. If you have any questions, you can contact Commission legal staff.*

New Roster

APPLICATION FOR COASTAL DEVELOPMENT PERMIT

APPENDIX A

DECLARATION OF CAMPAIGN CONTRIBUTIONS

Government Code Section 84308 prohibits any Commissioner voting on a project if he or she has received campaign contributions in excess of $250 within the past year from project proponents or opponents, their agents, employees or family, or any person with a financial interest in the project.

In the event of such contributions, a Commissioner must disqualify him or herself from voting on the project; failure to do so may lead to revocatior of the permit.

Each applicant must declare below whether any such contributions have been made to any of the Commissioners or Alternates listed on the reverse.

CHECK ONE

_____ The applicants, their agents, employees, family and any person with a financial interest in the project HAVE NOT CONTRIBUTED over $250 to any Commissioner(s) or Alternates within the past year.

_____ The applicants, their agents, employees, and/or family, and/or any person having a financial interest in the project HAVE CONTRIBUTED OVER $250 to the Commissioner(s) or Alternates listed below within the past year.
the past year.

Commissioner_____

Commissioner_____

Commissioner_____

_____ _____
Signature of Applicant or Authorized Agent Date

Please print your name_____

In the South Coast District area (Los Angeles and Orange Counties) the following additional specific attachments are required, where applicable.

Please include 2 copies of your project plans (Section V-7 above) except in the City of Los Angeles, where 3 copies are required. These plans must be stamped "Approval in Concept" by the City or County.

LOS ANGELES COUNTY

1. Malibu/Santa Monica Mountains area of unincorporated Los Angeles County, for further information see Malibu/Santa Monica Mountains Interpretive Guidelines.

   a. All projects -

   ☐ 1. must have a current (not more than 1 year old) Geologic Review Sheet and two geologic and/or soils reports if required by the County.

   ☐ 2. except single-family dwellings and additions to existing structures - preliminary approval from the Regional Water Quality Control Board.

   ☐ 3. except single-family dwellings not on a beach - must have County Health Department approval for any development utilizing septic systems.

   b. On a beach -

   ☐ 1. All projects - Health Department approval.

   ☐ 2. All projects except additions to existing structures which do not require septic system alterations - County Coastal Engineering approval.

   ☐ 3. State Lands Commission review of plans.
   (State Lands Commission, 1807 13th Street, Sacramento, CA 95814)

   ☐ 4. A stringline map showing adjacent structures.

   c. Outside of existing developed areas (as defined by guidelines) -

   ☐ 1. Approval in Concept by the Fire Department for road and water minimum standards.

   ☐ 2. A surveyed topographical map of the site.

   d. Land divisions -

   ☐ 1. Copy of the subdivision report and conditions of tentative tract map approval.

☐ 2. Geologic report indicating that all lots are buildable.

☐ 3. Map showing all parcels and their sizes within a ½ mile radius of any portion of the property.

☐ e. Parcels of less than one (1) acre in size located within a Small Lot Subdivision - Slope Intensity/Gross Structural Area calculations.

☐ f. Any project in or near a stream course - approval from the California Department of Fish and Game.

FOR THE FOLLOWING AREAS, PLEASE REFER TO THE LOS ANGELES COUNTY INTERPRETIVE GUIDELINES

☐ 2. City of Los Angeles - a valid Coastal Development Permit or Approval in Concept for Administrative permit.

☐ 3. Pacific Palisades, City of Los Angeles - a geology report for all bluff and hillside parcels, as required by City Geologist.

4. City of Santa Monica -

☐ a. Multiple family dwellings or demolitions - Rent Control Board approval.

☐ b. Multiple family dwellings, commercial projects and signs - Architectural Review Board approval.

☐ 5. Playa del Rey, City of Los Angeles - R-1 zoned areas or hillsides - a geology report.

☐ 6. Palos Verdes Peninsula, Cities of Rancho Palos Verdes and Palos Verdes Estates and San Pedro, City of Los Angeles, - bluff top lots - a geology report.

ORANGE COUNTY, please refer to the Orange County Interpretive Guidelines

☐ 1. All projects in the water - Regional Water Quality Control Board approval.

☐ 2. All projects in or adjacent to a Wetland or possible Wetland - California Department of Fish and Game and U.S. Fish & Wildlife Services approvals.

☐ 3. City of Costa Mesa - geology reports on all bluff projects.

4. City of Newport Beach -

a. On bluffs and shoreline -

☐ 1. A stringline map showing adjacent structures.

☐ 2. Corona del Mar only - geology report.

5. City of Laguna Beach -

☐ a. Hillside, canyon and bluff lots -2 geology reports for all projects.

☐ b. Coastal bluffs and shoreline - a stringline map showing adjacent structures.

c. Large projects -

☐ 1. Surveyed topographical maps of site.

☐ 2. California Department of Fish and Game approval.

6. South Laguna, unincorporated Orange County -

☐ a. All projects - geology report. (2 copies)

☐ b. Bluff and shoreline projects - a stringline map showing adjacent structures.

☐ c. Bluff, canyon and large projects - a surveyed topographical map.

☐ d. Large hillside developments - California Department of Fish and Game approval.

7. Dana Point, unincorporated Orange County -

a. Bluff projects -

☐ 1. A stringline map showing adjacent structures.

☐ 2. A geology report. (2 copies)

☐ 3. A surveyed topographic map.

8. Capistrano Beach, unincorporated Orange County -

☐ a. Bluff, canyon and shoreline projects - a stringline map showing adjacent structures.

☐ b. Canyon and bluff projects - a geology report. (2 copies)

9. City of San Clemente -

a. Bluff and canyon projects -

☐ 1. A surveyed topographic map.

☐ 2. A geology report. (2 copies)

☐ b. Bluff projects - a stringline map showing adjacent structures.

14-75

APPENDIX C

Appl.No. _____

APPLICATION FOR COASTAL DEVELOPMENT PERMIT

List of property owners and occupants within 100 feet and if applicant is not the fee owner of the property, all other persons owning an interest in the property proposed for development.

Please use one box per name and address. Additional copies will be mailed upon request.		

14-76

COASTAL COMMISSION FEE SCHEDULE

Single Family Residence:

On Admin or Consent Calendar	$ 250.00
On Public Hearing Calendar:	
(1500 sq.ft. or less)	250.00
(1501 sq.ft. to 5000 sq.ft.)	500.00
(5000 sq.ft. or more)	1,000.00

Multiple Residential: (incl. residential subdivisions or condo conversions)

2-4 units	$ 600.00
5-16 units	2,000.00
17-166 units	120.00 per unit
167 unit or more	20,000.00

Residential projects which involve more than 75 cubic yards of grading (including residential land divisions and mixed-use projects which have a residential component) shall be subject to an additional fee of $200.00 plus $5.00 per 1000 cubic yards in excess of 75 cubic yards.

Land Divisions

Lot Line Adjustment/Exiting unit(s) with only one new lot created	$ 600.00

Office, Commercial, Convention, Industrial

Less than 10,000 sq.ft. (gross)	$ 2,000.00
Less than 25,000 sq.ft. (gross)	4,000.00
Less than 50,000 sq.ft. (gross)	8,000.00
Less than 100,000 sq.ft. (gross)	12,000.00
More than 100,000 sq.ft. (gross)	20,000.00
Any major energy production or fuel processing facility	20,000.00

Other Fees

Administrative or Emergency Permit (Except Single Family Residences)	$ 200.00
Consent Calendar Item	$ 250.00
Amendments:	
Immaterial Amendments	$ 200.00
Material Amendments	1/2 of full permit fee (based on current fee schedule)

Extensions and Reconsiderations:		
Single Family Residences		$ 200.00
All Other Developments		$ 400.00
Assignments		$ 200.00
Request for Continuance	1st request	No charge
	2nd and subsequent request (where staff staff report is unchanged)	$ 100.00
Waivers		$ 200.00

Other Developments not otherwise covered herein:

If cost under $100,000	$ 600.00
cost $100,000 to $500,000	$ 2,000.00
cost $500,000 to $1,250,000	$ 4,000.00
cost $1,250,000 to $2,500,000	$ 8,000.00
cost $2,500,000 to $5,000,000	$12,000.00
cost more than $5,000,000	$20,000.00

Fees for after-the-fact permits shall normally be double the regular permit fee cost.

In addition to the above fee, the Commission may require the applicant to reimburse it for any additional reasonable expenses incurred in its consideration of the permit application, including the cost of providing public notice. This schedule has been developed to assist permit applicants in calculating the necessary processing fees. The full test of the fee schedule may be found in section 13055 of the Commission's Administrative Regulations.

Note: Permits shall not be issued without full payment of all applicable fees. If final action by the Commission results in a lower fee than initially submitted by the applicant, then a refund is due.

SFS/ltc
1311p

CALIFORNIA COASTAL COMMISSION
SOUTH COAST AREA
245 W. BROADWAY, STE. 380
P.O. BOX 1450
LONG BEACH, CA 90802-4416
(310) 590-5071

APPENDIX E

APPROVAL IN CONCEPT

APPROVAL IN CONCEPT BY THE CITY/COUNTY OF _____

as required for permit application to the California Coastal Commission, South Coast Region pursuant to California Administrative Code, Section 13052.

COMPLETE Description of Proposed Development: _____

_____

_____

Property Address: _____

_____

Legal Description: _____

_____

Zone: _____

Applicant(s): _____

Applicant's Mailing Address: _____

_____

Applicant's Telephone Number: _____

I have reviewed the plans for the foregoing development including:

1. The general site plan, including any roads and public access to the shoreline.
2. The grading plan, if any.
3. The general uses and intensity of use proposed for each part of the area covered in the application,

and find,

They comply with the current adopted _____
City or County
General Plan, Zoning Ordinance, Subdivision Ordinance, and any applicable specific or precise plans, or

That a variance or exception has been approved and is final.

A copy of any variance, exception, conditional use permit, or other issued permit is attached together with all conditions of approval and all approved plans including approved tentative tract maps. On the basis of this finding, these plans are approved in concept and said approval has been written upon said plans, signed, and dated.

14-79

Should this City or County adopt an ordinance deleting, amending, or adding to the Zoning Ordinance or other regulations in any manner that would affect the use of the property or the design of a project location thereon, this approval in concept shall become null and void as of the effective date of this said ordinance.

In accordance with the California Environmental Quality Act of 1970, and State and local guidelines adopted thereunder, this development:

_____ Has been determined to be ministerial or categorically exempt.

_____ Has received a final Exemption Declaration for final Negative Declaration (copy attached).

_____ Has received a final Environmental Impact Report (copy attached).

This concept approval in no way excuses the applicant from complying with all applicable policies, ordinances, codes, and regulations of this City or County.

THE APPROVAL IN CONCEPT STAMP MUST BE AFFIXED ON ALL SUBMITTED PLANS. THIS REQUIREMENT WILL BE IN ADDITION TO THE APPROVAL IN CONCEPT FORM THAT IS NOW REQUIRED.

I hereby certify that all information contained in this approval in concept is correct and that all discretionary approvals legally required of this City or County prior to issuance of a building permit have been given and are final. The development is not subject to rejection in principal by this City or County unless a substantial change in it is proposed.

_____

Planning Director

By: _____

_____

Printed Name and Title of Individual Signing

Date: _____

Attachments:

1.
2.
3.
4.

14-80

Attachment X

To: Permit Applicants

From: California Coastal Commission, South Coast District

Subject: Standard Conditions

The following standard conditions are imposed on all permits issued by the California Coastal Commission.

I. STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

STREAM OR LAKE ALTERATION FEES

Beginning Sept. 1, 1982 the DFG must charge fees for all stream or lake alteration Agreements. The current fee* schedule is listed below; changes in fees may be necessary at a future date.

These fees became necessary as a result of Senate Bill 1326, Chapter 327, 1982, which requires the Department to recover the costs of administering the stream and lake alteration agreement program.

*$25 portion included in 1601 & 1603 fees is non-refundable.

1601 Applications (Public Agencies)

A. $25 fee for projects costing less than $25,000

B. $125 fee for projects costing from $25,000 to $500,000

C. $225 fee for projects costing over $500,000

1603 Applications (Private) excluding commercial gravel operations

A. $25 fee for private individuals who do the work themselves

B. $25 fee for projects costing less than $25,000

C. $125 fee for projects costing from $25,000 to $500,000

D. $225 fee for projects costing over $500,000

1603 Commercial Gravel Operation Application

A. $100 fee per application

1606 Applications (Timber Harvest)

A. $100 fee per application with 1 or 2 stream encroachments

B. $125 fee per application with 3 or 4 stream encroachments

C. $150 fee per application with 5 or more stream encroachments

NOTE: Projects are defined as being the total project and not only that portion lying within the State's area of concern. Circle the fee schedule above that applies to your project.

When submitting your notification, complete the following information and make your check or money order payable to the "Department of Fish and Game". PLEASE DO NOT SUBMIT CASH**. Under provisions of the Fish and Game Code, work cannot begin until agreement is reached.

Notifier's Name: _____

_____ (Signature)

Address: _____

_____

_____

Name of Stream: _____

**Please indicate that the fee is for Notification No.(s): _____

Total Cost of Project: _____ (If Applicable)

_____

Fee Submitted: _____

MAIL FEES TO: Department of Fish and Game
245 W. Broadway, Suite 35
Long Beach, CA 90802

Attn: Environmental Services

14-82

The department has 30 days from date of receipt of a completed application in which to make its recommendations. This time period does not begin until the department receives the appropriate fee (see attached fee schedule).

T.H.P. No. _____

Notification No. _____ Received _____

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME

NOTIFICATION OF REMOVAL OF MATERIALS AND/OR ALTERATION OF LAKE, RIVER, OR STREAMBED BOTTOM, OR MARGIN

A. APPLICANT Pursuant to Sections 1601–1607 of the California Fish and Game Code

I, _____ (Name of Applicant) of _____ (Mailing Address)

Representing _____ (Name and address of Individual, Agency, Company, etc. owning property or doing work)

Hereby notify the California Department of Fish and Game of operations to be carried out by or for me

from _____ (Starting Date) to _____ (Ending Date) on or affectir

_____ (Name of Stream, River, or Lake) of _____ County, tributary to _____ (Major Water Body)

Located _____ (Distance and Direction to Landmarks)

Property owners name and address (if different from applicant) _____

_____

_____ (Name of Person to Be Contacted at Site During Operations) is responsible for operations at the sit

He/she can be reached at _____ (Mailing Address) _____ (Telephone)

B. Description of operation 1. The nature of said operations will be as follows:
Check all squares which apply.

- ☐ Soil, sand, gravel, and/or boulder removal or displacement
- ☐ Water diversion or impoundment
- ☐ Mining—other than aggregate removal
- ☐ Road or bridge construction
- ☐ Levee or channel construction
- ☐ Timber harvesting or any related activity required for harvesting timb
- ☐ Temporary, recreational or irrigation dam
- ☐ Fill or spoil in bed, bank, or channel
- ☐ Other—Describe below

2. Type of material removed, displaced or added ☐ Soil ☐ Sand ☐ Gravel ☐ Boulders
Volume _____
3. Equipment to be used in the described site _____
4. Use of water (i.e., domestic, irrigation, gravel, washing, etc.) _____ Quantity _____
5. Describe type and density of vegetation to be affected, and estimate area involved.
_____
6. What actions are proposed to protect fish and wildlife resources and/or mitigate for project impacts? _____
_____

7a. Does project have a local or state lead agency or require other permits? ☐ Yes ☐ No

7b. If 7a answer is yes, please attach or identify any available environmental document.

7c. For state-designated wild and scenic rivers, a determination of the project's consistency with the California Wild and Scenic Rivers A must be made by the Secretary for Resources. Until the Secretary determines the project is consistent with the Act, the Departme cannot issue a valid agreement. A tentative agreement will be issued, conditioned upon a finding of consistency by the Resourc Secretary.

7d. THIS AGREEMENT IS NOT INTENDED AS AN APPROVAL OF A PROJECT OR OF SPECIFIC PROJECT FEATURES F THE DEPARTMENT OF FISH AND GAME. INDEPENDENT REVIEW AND RECOMMENDATIONS WILL F PROVIDED BY THE DEPARTMENT AS APPROPRIATE ON THOSE PROJECTS WHERE LOCAL, STATE, OR FEDERA PERMITS OR OTHER ENVIRONMENTAL REPORTS ARE REQUIRED.

8. Briefly describe proposed construction methods. Attach diagram or sketch of the location of your operation to clearly indicate the strea or other water and access and distance from named public road. Indicate locked gates with an "X". Show existing features with a sol line (————) and proposed features with a broken line (– – – – – –). Show compass direction. Attach larger scale map if necessar

_____ (Signature of Applicant) Da

14-83

NO CARBON NEEDED
FG2023 (REV. 4/86)

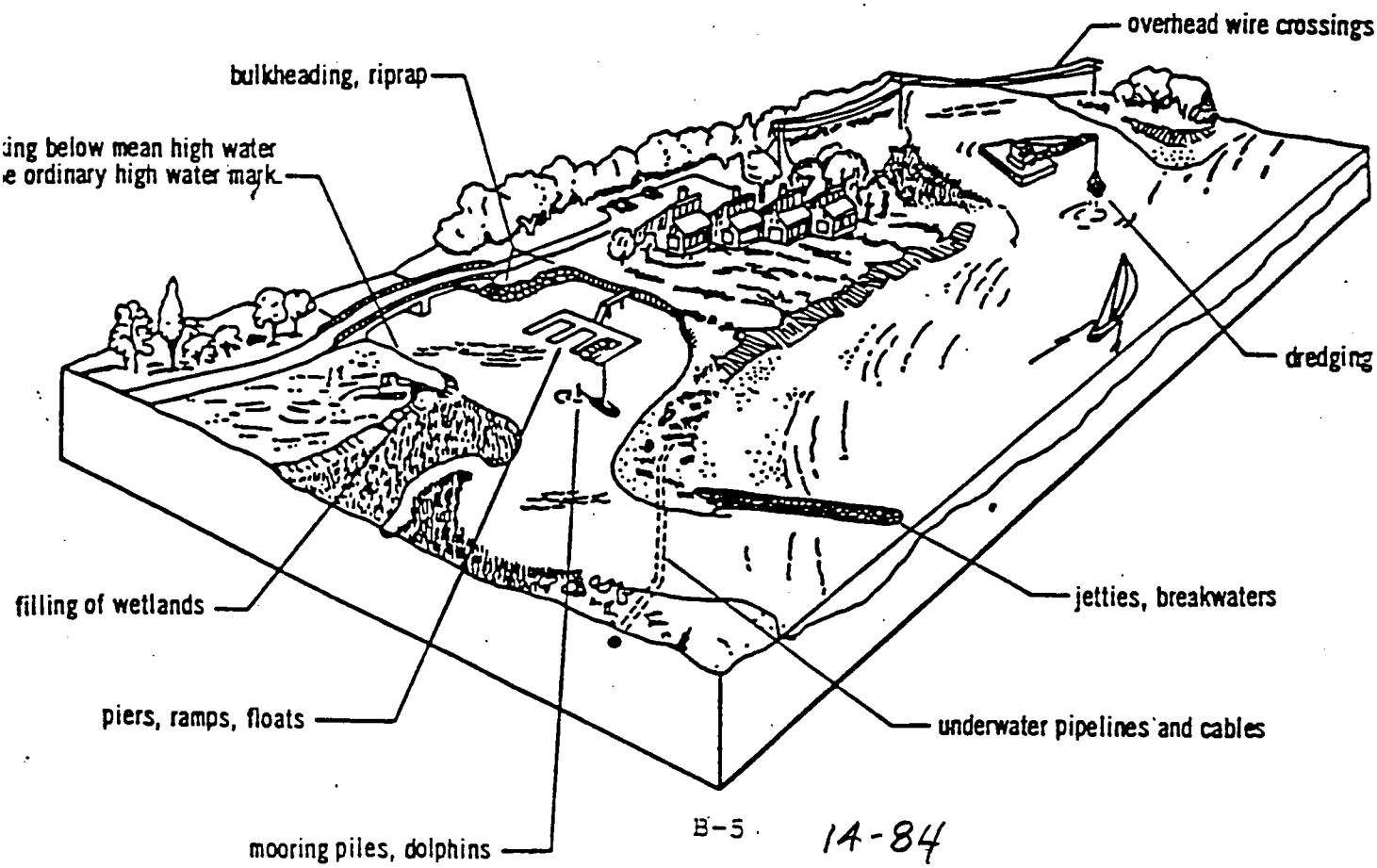
86 9

Taking the right steps in planning your project can save you time and dollars. If you plan to work along the shoreline, in wetlands, in areas behind levees or in the water please contact the Army Corps of Engineers. Why? Because we want to help you do it right!

Our staff is here to provide you information, guidance and assistance if a Corps permit is required for your proposed work. Feel free to call us or drop us a line:

Army Corps of Engineers
Regulatory Functions Branch
211 Main St.
San Francisco, CA. 94105
(415) 974-0418

Below are example activities requiring a Corps permit. If in doubt, contact us before you begin work.



 14-84

DATE:

TO: Grading Plan Check Applicants

FROM: Drainage and Grading Section
Building and Safety/Land Development Division

FIRE DEPARTMENT ACCESS DRIVEWAY REQUIREMENTS FOR GRADING PROJECTS

SITE LOCATION GRADING _____ PLAN CHECK NO. _____

This form must be signed and returned to the Drainage and Grading Section prior to approval of the Grading Plan.

This is to certify that the owner of the subject property is aware of the Fire Department access requirements which are defined in Section 207 of Title 32 of the Los Angeles County Code (Fire Code) and the following standards issued by the Forester and Fire Warden:

1. Standards for Private Access Roads and Driveways for Single-Family Dwellings (No Public Right-of-Way).

2. Standards for Access to All Buildings Other Than Single-Family Dwellings.

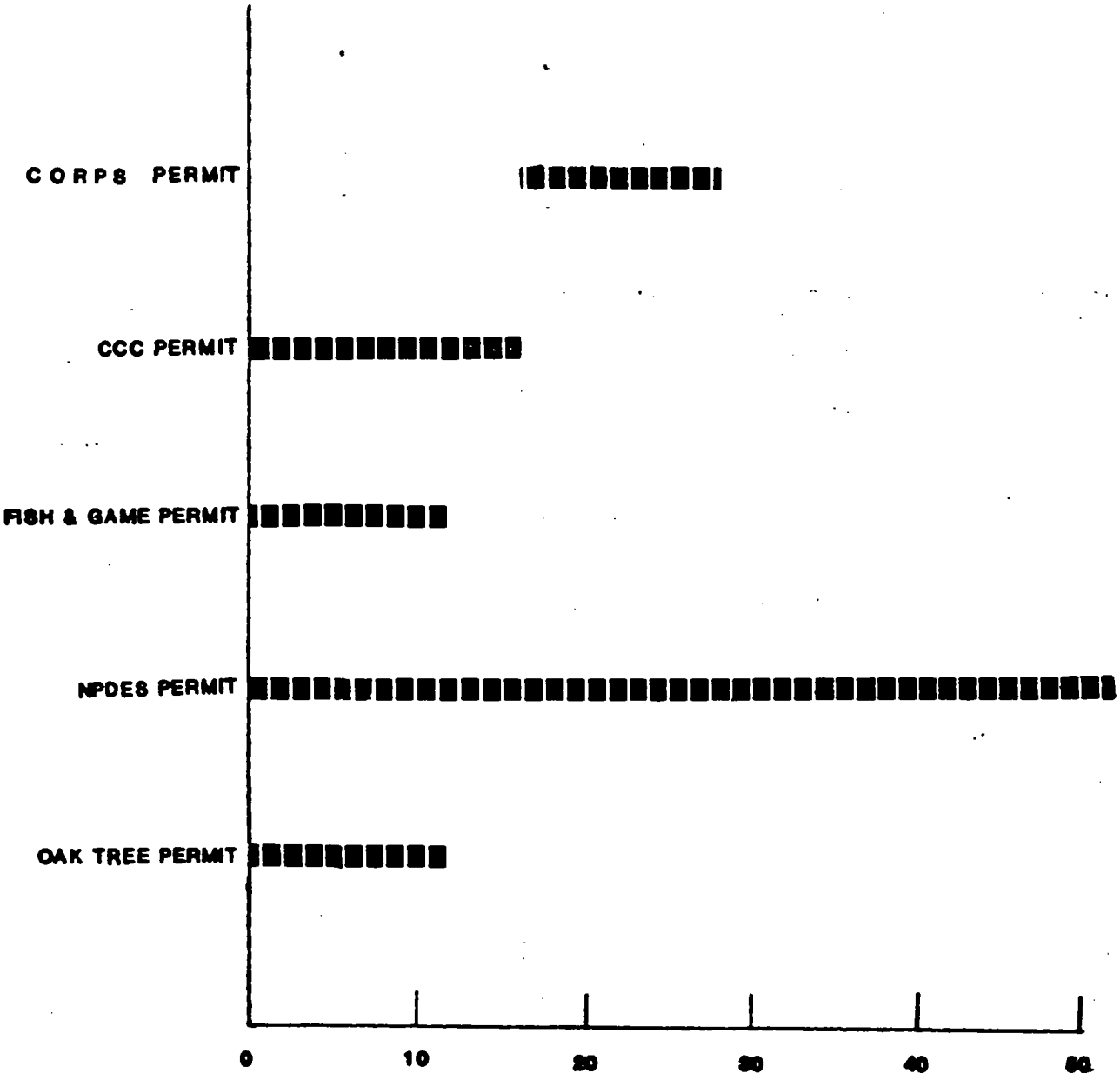
Additional grading or construction may be required and approved by the Forester and Fire Warden to meet these requirements prior to issuance of a building permit.

OWNER: or ENGINEER:

SIGNATURE _____ SIGNATURE _____

ADDRESS _____ ADDRESS _____

Attachment B



Permit Schedule

14-86

COUNTY OF LOS ANGELES (To be completed by the owner(s)

DEPARTMENT OF PUBLIC WORKS Document "A"

BUILDING AND SAFETY DIVISION

ACKNOWLEDGEMENT TO EMPLOY CONSULTANTS

Grading Plan Check No:_____ Date Filed:_____ Dist. No:_____

Grading Permit No:_____ Date Issued_____

Address or Location of Property:_____

Tentative Tract No:_____ or

Legal Description:_____

_____

Owner's Name:_____
(Print)

The owner(s) of the above described property hereby acknowledge by signature(s) that, as a condition of the grading permit and during all work authorized by said permit, a registered civil engineer will be retained to perform the duties of field engineer in accordance with requirements of Chapter 70 of the Building Code, and further, that a soil engineer and/or engineering geologist (when required) will be employed to make tests, investigations and file the reports that may be required for compliance with said code.

Owner(s)_____ Telephone_____
(Signature)

Address_____ City_____ State_____

Field Engineer_____ Reg. No._____
(Print Name)

Firm_____ Date_____

Address_____ Telephone_____

_____

Soil Engineer_____ Reg. No._____
(Print Name)

Firm_____ Date_____

Address_____ Telephone_____

_____

Engineering Geologist_____ Reg. No._____
(Print Name)

Firm_____ Date_____

Address_____ Telephone_____

INSTRUCTIONS: THIS DOCUMENT MUST BE COMPLETED AND FILED BY THE OWNER, TOGETHER WITH DOCUMENT "B", TO THE BUILDING AND SAFETY DIVISION BEFORE THE GRADING PERMIT MAY BE ISSUED.

IH:mg· 53 Supercedes form 12/10/84
3/85

14-87

COUNTY OF LOS ANGELES (To be completed by the consultant)

DEPARTMENT OF PUBLIC WORKS Document "B"

BUILDING AND SAFETY DIVISION

ACCEPTANCE OF EMPLOYMENT BY CONSULTANTS

Grading Plan Check No:_____ Date Filed_____ Dist. No:_____

Grading Permit No:_____ Date Issued:_____

Address or Location of Property:_____

Tentative Tract No:_____ or

Legal Description:_____

_____

Owner(s)_____ Telephone_____
(Print Name)

Address_____ City_____ State_____

The undersigned verify by signatures(s) that they have been retained as consultant(s) and agree to notify the Building Official, Building and Safety Division, within 48 hours if such employment is terminated. It is further understood that all required reports are to be submitted to the Building and Safety Division by each consultant.

Field Engineer_____ Reg. No._____
(Signature)

Firm_____ Date_____

Address_____ Telephone_____

_____

Soil Engineer_____ Reg. No._____
(Signature)

Firm_____ Date_____

Address_____ Telephone_____

_____

Engineering Geologist_____ Reg. No._____
(Signature)

Firm_____ Date_____

Address_____ Telephone_____

_____

INSTRUCTIONS: THIS DOCUMENT MUST BE COMPLETED AND FILED, TOGETHER WITH DOCUMENT "A", TO THE BUILDING AND SAFETY DIVISION BEFORE THE GRADING PERMIT MAY BE ISSUED. EACH CONSULTANT MAY COMPLETE INDIVIDUAL FORM SEPARATELY.

TH;mg 53 Supercedes form 12/10/84 14-88

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

BUILDING AND SAFETY DIVISION

ENGINEERED GRADING

CONSULTANT STATEMENT

Job Address
or Tract No. _____ Locality _____ Permit No. _____

Owner _____ Contractor _____

☐ ROUGH GRADING

☐ BY FIELD ENGINEER

Based upon observations, rough grading of the lots listed below has been completed in conformance with plans therefor marked "APPROVED" by the County, and Building Code Chapter 70. The Work includes but is not limited to the following: grading to approximate final elevations; staking of property lines; location and gradient of cut and fill slopes; location, cross-sectional configuration and flow-line gradient of drainage swales and terraces (graded ready for paving); berms installed where indicated; and required drainage slopes provided on building pads.

LOT NOS. _____

As-built plans have been prepared
Latest Plan revision date _____.

Remarks: _____

_____

Engineer _____ Reg. No. _____ Date _____
(Signature)

☐ BY SOIL ENGINEER

Based upon tests and observations, the earth fills placed on the following lots were installed upon properly prepared base material and compacted in compliance with requirements of Building Code Section 7016. Fill slope surfaces have been compacted and buttress fills or similar stabilization measures have been installed in accordance with my recommendations as approved by the Building Official. Sub-drains have been provided where required and locations of said sub-drains are shown on plans dated _____.

LOT NOS. _____

See report dated _____ for compaction test data and procedure, recommended allowable soil bearing values and other special recommendations.

EXPANSIVE SOILS (YES) (NO) LOT NOS. _____

BUTTRESS FILLS (YES) (NO) LOT NOS. _____

Remarks: _____

_____

Engineer _____ Reg. No. _____ Date _____
(Signature)

14-91

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

BUILDING AND SAFETY DIVISION

KNOW ALL MEN BY THESE PRESENTS: SECURITY NUMBER_____

That we,_____

_____

_____

of_____California, as_____

principal, and_____

a corporation, as surety, are held and firmly bound unto the County of LOS ANGELES, a body politic and corporate of the State of California, in the sum of_____ $_____lawful money of the United States, for the payment of which well and truly to be made we hereby bind ourselves, jointly and severally, firmly by these presents.

Signed, sealed and dated this_____day of _____19_____

WHEREAS, an application by the above-named principal, has been made to the DEPARTMENT OF PUBLIC WORKS, COUNTY OF LOS ANGELES, Division of Building and Safety for the issuance, to said principal, of a permit to perform excavation or fill work or both within the County of Los Angeles more specifically described in the application for a Grading Permit, upon a location owned by said principal known as lot _____, block_____, tract_____, locality_____ or as street address of _____in accordance with the provisions of Chapter 70 of the Los Angles County Building Code, and

WHEREAS, Los Angeles County Building Code, Chapter 70, requires as a condition precedent to the issuance of said permit that the principal shall furnish a security in the sum above named to the County of Los Angeles, conditioned as hereinafter set forth:

NOW, THEREFORE,

(1) If the principal shall well and truly comply with all the applicable requirements of Los Angeles County Building Code, Chapter 70, and

(2) If all of the work required to be done complies with all of the terms and conditions of the Permit for excavation or fill or both to the satisfaction of the Building Official then this obligation shall be void; otherwise it shall remain in full force and effect.

It is understood that the liability of the principal and surety upon this security shall be in effect from the date hereof and remain in effect until the completion of the work in compliance with all terms and conditions of said Grading Permit and until final approval thereof by the Building Official.

It is further understood that the County of Los Angeles, or the surety, or both, or any authorized representative of either, shall have the right to enter the above described property for the purpose of inspecting the work, and should the principal default in the performance of any of the terms and conditions of the Grading Permit, the said County, or surety, or both, or agent of either, shall have the right of access to the property and may complete the work necessary for compliance with requirements of said Building Code, Chapter 70.

Where the work requiring this bond is located within an incorporated city and the County of Los Angeles is the enforcement agency, the obligation of this security shall include the incorporated city where the work is to be performed.

In such case the words "Department of Public Works, County of Los Angeles, Building and Safety Division" and "Building Official" shall mean such Department and Official respectively while acting, respectively, as the appropriate department and official of such city. The words "Los Angeles County Building Code" mean the building code or other ordinance having provisions the same as, or substantially similar to Chapter 70 of said Los Angeles County Building Code.

IN WITNESS WHEREOF the principal and surety caused this security to be executed the day and year first above written.

_____

_____

(Seal) Principal _____

_____

(Seal) Surety _____

_____

(This security must be acknowledged both as to principal and surety before a Notary Public.)

Local Mailing Address of Surety:_____

FOR DEPARTMENT USE ONLY			
Plan Check	Permit No.	Date Work Completed	Date Security Released

14-92

CHAPTER 15

GRADING PERMIT INSPECTIONS

The following are the functions that are normally performed by the following Divisions.

I. Division Responsibility

A. Building and Safety/Land Development Division

Building and Safety/Land Development Division is responsible for approval of all grading. All grading inspectors are assigned to that Division. It is their responsibility to enforce all applicable State and County Codes and verify that the requirements and design on the approved grading plans have been complied by the contractor.

The Drainage and Grading Section personnel are often called upon by the grading inspector to handle problems resulting from changed conditions due to different than anticipated materials encountered at the site or a different drainage pattern at the site. Generally, personnel in this Section assist building and safety inspectors in getting assistance from specialists that are located elsewhere in the Department.

B. Materials Engineering Division

Geotechnical conditions of grading plan approval commonly require in-grading inspections and/or final geotechnical reports prior to approval of rough grading.

Depending on the complexity of the geologic conditions affecting site development and scope of grading, in-grading inspection reports by the geotechnical consultants may be required by the Building Official. These reports must include information demonstrating that the encountered geotechnical conditions were as anticipated. If conditions were different, new design recommendations are required to be submitted in reports for review and approval by this Division.

The Geology Development Review Section may periodically inspect the grading, review in-grading geotechnical reports and may confer with the developer's field geologists. The developer's field geologists are responsible for obtaining additional geologic information exposed by the grading and presenting it on the as-graded geology maps and in the final reports.

Before approval of rough grading by this Division, a geologic field review of the final geotechnical reports and grading are made. This also includes verifying that geotechnical remedial measures were completed and associated subdrains have been connected. Approval cannot be granted until it has been determined that the work was done in accordance with the approved plan, applicable policy and regulatory provisions, and geotechnical hazards have been identified and appropriately mitigated and considered.

The in-grading or final reports are reviewed by the Geotechnical Engineering Development Review. A soils review sheet with submitted documents are sent to the Geology Development Review Section for coordination with their review sheet. Copies of the combined review sheets are then sent to the geotechnical consultants, Processing Center and Building and Safety/Land Development Division District Office. The Materials Engineering Division approval is obtained before Building and Safety/Land Development Division issues rough grading approval. Final grading approval, which is done by the Building and Safety/Land Development Division, occurs when all the utilities are in place and the grading pads are ready for foundation excavations.

II. Grading Permit Issuance

Before a grading permit can be issued, a grading plan must be submitted and approved in accordance with the procedures presented in Chapter 14 of this Manual. The approved grading plan must be placed on file at the time of the grading permit issuance. All Grading Permits are issued by Building and Safety Division after a fee is paid and all required documents have been submitted and approved as presented

in Chapter 14. The Grading Permit Fee as established in Section 304 (d) of Title 26 of the County Code is also presented in that Chapter.

Once a grading permit is issued, grading by the developer must commence within one year. The permit expires in one year but it can be extended in accordance with Section 303 (d) of Title 26 of the County Code.

III. Document Submittal

At the time of issuance of a grading permit and during grading operations the Building Official may require specific documents issued to the following:

A. Building and Safety/Land Development Division

All approved plans and documents noted in Chapter 14 of this Manual must be submitted prior to the issuance of a grading permit. During grading the Building Official may request in-grading reports covering specific operations and hazard removal. The Building and Safety Division District Office is to receive a copy of each report sent to another Divisions.

B. Other Divisions

All submittals of grading documentation for review by the Building and Safety/Land Development and Materials Engineering Divisions and as-built grading plans must be submitted in the same manner that the grading plan documents were submitted. (See Item A on Page 14-1, Chapter 14 of this Manual.) It will be of great assistance to the Department in the processing of the documents if the name of the permit reviewer in Building and Safety/Land Development Division or Materials Engineering Division is noted on the submittal card.

Depending upon the complexity of the site, the Building Official may require that in-grading reports and a set of as-graded plans be sent and approved by either the Drainage and Grading Section of the Building and Safety/Land Development Division or Geotechnical Development Review of the Materials Engineering Division. The grading plan review sheets from various Divisions which are in the file of the District Office will recommend specific reports and specific investigations and analyses during grading operations and contain conditions which must be met.

IV. Bond Exonerations

A. Grading Securities

All inquiries regarding the release of the grading bond must be directed to the Building and Safety Division District Office responsible for the project. Grading securities are required to guarantee completion of the grading. The Bonds are not a guarantee that the conditions of subdivision map approval will be met. Any grading restrictions must be a part of the conditional use permit issued by the Department of Regional Planning.

B. Geologic Hazard Bonds

All Geologic Hazard or Corrective Geologic Improvement Bonds are administered by the Bond Administration Subunit, Development Management Section of the Building and Safety/Land Development Division. The bond amounts are determined by the developer's consultants and are reviewed by Materials Engineering Division. (See Chapters 12 and 49 of this Manual.)

Geologic Hazard Bonds are only applicable to grading associated with removing a geotechnical hazard as required for subdivision final map approval. These bonds are required if the subdivision is permitted to record prior to the completion and geotechnical approval of the grading and corrective work. (See Chapter 13 of this Manual.)

To release the Bond:

1. A request must be initiated by either the contractor, engineer or developer to the Material Engineering Division.

2 The final geotechnical report from the developer's consultant must be submitted to verify that all hazards have been eliminated in accordance with the approved plans.

3. Rough grading and final report must geotechnically be approved for construction by the Materials Engineering Division.

Once these three items have been met, the Geology Development Review Section sends a release memorandum to the Bond Administration Subunit of Development Management Section (See Chapter 13 regarding the general processing of Bonds and Agreements). The Bond Administration Subunit then exonerates the bond. A form letter is sent to the developer with a copy being sent to the surety company. (See Pages 15-8 and 15-9).

Information on release of Geologic Hazard Bonds and associated procedural and guideline forms can be obtained from the Materials Engineering Division at (818) 458-4923.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director
CECIL E. BUGH, Chief Deputy Director
MAS NAGAMI, Assistant Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

date

L-5
IN REPLY PLEASE REFER TO FILE: 315.11

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

x
x
x

Gentlemen: Dear :

PROTECTIVE GEOLOGIC IMPROVEMENTS
TRACT PARCEL MAP NO.

All improvements necessary to correct geologic hazards which affected development of the subject division of land and guaranteed by the improvement security listed below have been satisfactorily completed in compliance with the plans and specifications on file with this Department.

On behalf of the County of Los Angeles, we approved the work this date and exonerated the following listed surety bond:

Bond Number
Amount -
Surety

On behalf of the County of Los Angeles, we approved the work this date and released the following security deposit:

Certificate of Deposit Number
Letter of Credit Number
Passbook Number
Amount -
Financial Institution

On behalf of the County of Los Angeles, we approved the work this date and refund the following cash deposit:

Receipt Number
Date of Deposit
Amount

Name
Tract
Date
Page

On behalf of the County of Los Angeles, we approved the work this date and reduced the following surety bond to $

Bond Number
Original Amount
Surety

On behalf of the County of Los Angeles, we approved the work this date and reduce the following security deposit to $

Certificate of Deposit Number
Letter of Credit Number
Passbook Number
Original Amount
Financial Institution

Enclosed is your Certificate of Deposit/Letter of Credit/Savings Passbook.

A warrant for your cash deposit amount is being processed and will be sent to you in about one month.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

N. C. DATWYLER
Assistant Deputy Director
Land Development Division

TO:	Development Management Section Land Development Division	FROM:	Geology Development Review Section Materials Engineering Division

Subject: Bond Release Date:

EXONERATION OF FAITHFUL PERFORMANCE BOND FOR CORRECTIVE GEOLOGIC IMPROVEMENTS

On this date, the improvements necessary to correct geologic hazards which affect development of (Tract/Parcel Map No.) _____ were found to be completed (Parent Tract No. _____).

Prepared by:

_____

DP:sh
1:bond

cc: Subdivision Section (Bonds) (1)
File (Original)

Rev. 11/04/91

CHAPTER 16

BUILDING PLAN CHECK

All building plans must be submitted to an office of the Building and Safety Division. Building and Safety Division has overall responsibility for enforcing the Building Code. It is the decision of the Building Plan Checker to utilize the services available in their Division and/or the Materials Engineering Division.

It should be noted that the provisions of the Building Code apply to the construction, alternation, moving, demolition, repair, use of any building or structure and grading within the unincorporated territory of the County of Los Angeles, and to such work or use by the County in any incorporated city not exercising jurisdiction over such work.

A. Application Submittal

Building and Safety/Land Development Division is responsible for receiving and processing applications for plan checks, collecting fees, and finally issuing building permits. The Building and Safety/Land Development Division requests specific reviews of building projects from Land Development and Materials Engineering Divisions in the following areas: Drainage, Geology, Geotechnical Engineering, and Road Access for R-3 structures or greater. As with all requests for review, the request to perform services must be noted on Post Card Form B. The instructions for filling this card are presented on Pages 14-10 through 14-13, Chapter 14 of this Manual.

If there are special concerns by the Building Plan Checker, an additional note may be submitted detailing these concerns. Post Card Form B, Building Plan Check Application and the necessary review materials must be sent to the Land Development Division Processing Center in either of two ways:

1. The Building and Safety Plan Checker sends the materials by County Messenger.

2. The Building and Safety Plan Checker directs the applicant to deliver the materials directly to the Land Development Division Processing Center.

B. Plan Review

Upon receipt of the materials, the processing center directs those materials requiring Land Development or Materials Engineering Divisions review to the appropriate section, while at the same time, logs them into the LDMA tracking system.

The following Building and Safety/Land Development and Materials Engineering Division Sections provide reviews:

1. Drainage and Grading Section, Building and Safety/Land Development Division

Generally, Drainage and Grading Section inspects all sites for which a building plan has been submitted. This is done by the Regional Drainage Engineers. Exemptions to this required inspection is on Page 16-5.

Before building plans can be accepted, the plans must contain the information required on Page 16-6. This section then reviews the plans for sheet flow and flood hazard mitigation to the site in compliance with Section 308 of Title 26 and Chapter 10.94 of Title 20 of the

County Code (Building and Utilities Codes, respectively). The "Building Plan Drainage Review Sheet" on Pages 16-7 and 16-8 are used.

If the project is within a designated flood hazard area, the developer must meet the requirements of the National Flood Insurance Program. An Elevation Certificate Form showing that the structure can withstand a potential flood must be completed. A copy of the form is on Pages 16-9 and 16-10. The building regulations and instructions for completing this form is in Chapter 55 of this Manual. For non-residential structures, a Floodproofing Certificate may be used. A copy of this form is on Page 16-11.

2. Road, Sewer and Water Section - Road Permit Subunit, Land Development Division

The Road Permit Subunit sets road improvement conditions for building permits in an R-3 zone or greater density. The "Notice of Improvement" form and a copy of the site plan is received from the client by Building and Safety Division who then sends the material direct to this unit to determine if road improvements are required. This "Notice of Improvement" Form (No. 88-0040 DPW(5-90)) is used for tentative map reviews and for evaluating Bridge and Main Thoroughfare Districts discussed in Chapter 11 of this Manual. A copy of this form is in that Chapter.

For other residential building construction which requires a zone change, conditional use permit, variance, etc. from Regional Planning Department, the provisions in Chapter 22 apply.

Upon receipt of the request from Building and Safety/Land Development Division and the submitted materials, the Road Permit Subunit performs the following review and processing functions:

a. Obtain copies of assessors map book, house map and assessors roll from the Division Files.

b. Mark each of the documents in Item 1 with the size of the development.

c. Complete the "Notice of Improvement Sheet-Information Sheet" form showing the existing and the needed road widths at this site (See Page 16-12). See Chapter 45 of this Manual regarding the determination of needed road widths.

d. Complete the card that shows the location and details of this development (see Page 16-13).

e. Perform a field investigation at the site to verify that the gathered information is correct or that additional improvements will be required.

f. Add additional requirements to the "Notice Improvement Sheet-Information Sheet" noted during the field trip.

g. If additional right-of-way is required, Mapping and Property Management Division - Road Right of Way Section is requested to prepare the necessary deeds granting the needed right-of-way.

h. When the deeds are completed, the applicant is sent a letter with the deeds and "Agreement to Improve Adjacent Highway, Streets or Alleys" (see Page 16-14). This advises the applicant of the road dedication and improvement requirements which are noted on the "Notice of Improvement" Form that accompanied the submitted site plan. No utilities can serve the property until the conditions on this "Notice of Improvement" form are met.

i. When all the required documents have been completed, the entire package is returned to the requesting Building and Safety/Land Development office.

The building permit can be issued only when these documents are properly signed by the property owner and returned by the owner/applicant to Building and Safety/Land Development Division. If the site is located in an approved or proposed Major Bridge and Main Thoroughfare Fee District, it must be determined what fees have been paid and if additional fees must be paid. If there are no existing agreements, documents must be prepared. The procedures for determining fee rates, needed agreements, security deposits are presented in Chapters 11 and 12 of this Manual. As part of the review, Building and Safety/Land Development Division is notified as to the procedures for satisfying the requirements of the "Bridge and Main Thoroughfare District" prior to issuance of a Building Permit. (See Chapter 11 of this Manual.)

The developer is responsible for preparing the necessary road plans described in Chapter 45 of this Manual which are reviewed and approved by Design Division. Before a certificate of occupancy can be issued by Building and Safety Division that allows the hooking up of utilities, the road improvements as shown on the plan must be completed and accepted by this Department.

The provisions of this item do not apply if the site is on a recorded subdivision in which there is a current agreement to make street improvements. In that case, the requirements in Chapter 21 of this Manual will apply. If the new subdivision has not been recorded, the improvements can be done under the provisions of this item under the old property description.

3. Geology and Geotechnical Engineering, Development Review, Materials Engineering Division

When the applicant is required to obtain a geotechnical report for review and approval by the Department as part of the building plan approval process, the applicant must submit two copies of each report and two sets of plans. In addition, the developer must pay a fee in accordance with Section 304 (f) of Title 26 of the County Code. The following are the current (May 1994) applicable fees for reviewing geology or geotechnical engineering reports and plans:

Engineering Geology Report	$266.80
Geotechnical Engineering Report	$266.80
Geotechnical Report - Same Consultants	$373.50
- Separate Consultants	$533.60
Plan Review or Site Inspection	$266.80

At the time the geotechnical submittal is accepted at a public counter, the applicant must complete mailing Post Card B. (See Chapter 14 of this Manual for instructions.) Submittals at

Building and Safety Offices are sent to the Land Development Processing Center for forwarding to the Materials Engineering Division. Upon receipt in the Materials Engineering Division, the plans and/or reports are logged in by the Division's Section Clerk and sent to the appropriate Geology and/or Geotechnical Engineering Development Review Section/Unit as directed by the Post Card B.

Geotechnical reports and plans are reviewed to determine that they meet code and other governmental regulations and that substantiating geotechnical information is provided, such as outlined in Chapter 49 of this Manual. The reviewing geologist may make a determination that geotechnical engineering analyses or evaluations will be required, wherein one set of the materials is sent to Geotechnical Engineering Development Review for their review and comments.

Included in the responsibilities of the reviewing geotechnical engineer are verification of submitted slope stability analyses, remedial design, etc. and determination that geotechnically the building site will be safe for the intended use with a safe access and that development will not adversely affect offsite property.

If upon reviewing the submitted data, either the engineering geologist or the geotechnical engineer may determine that their review is not required or necessary. Consequently, the reviewer may mark Post Card B "No Review Necessary" and notify the other reviewer accordingly.

When both engineering geology and geotechnical engineering reviews are required, the reviews will be coordinated by the geologist. During the review process either reviewer may contact the developer's geotechnical consultants verbally or by review sheets for additional information.

When geotechnical reviewers are satisfied that the project can be approved, each unit issues a review sheet which are distributed jointly, each referencing the other's review sheet. The coordinated review sheets are then processed through the Processing Center to the addressee indicated on Post Card B. Copies of the review sheets are mailed directly to geotechnical consultants and to the District Building and Safety Office by the Materials Engineering Division.

C. Methane Gas or Hazardous Waste

Should a Department reviewer discover that landfills with decomposable materials or existing or abandoned oil wells are within 1000 feet of the site, Waste Management and Building and Safety Divisions and the developer should be notified. See Chapters 9 and 46 of this Manual regarding this item. If an underground hydrocarbon or chemical storage tank is encountered, Waste Management Division should be notified along with the developer. It is assumed that Building and Safety is enforcing all Codes that affect the proposed development.

D. Resubmittals

Additional information reports and revised building plans may be submitted directly through the Land Development Processing Center in the same manner that the original information was submitted. (See Item A on Page 16-1.) It would be of great assistance in processing if the name of the reviewer is noted on the submittal card.

E. Permits from Other Agencies

Before a building permit can be issued, permits from other agencies may be required. The most common permits are described in Chapters 14 and 50 of this Manual.

BUILDING CONSTRUCTION EXEMPT FROM DRAINAGE REVIEW

New Construction Exempt from Drainage Review

1. Residential garage and carports
2. Patios
3. Residential room additions 600 square feet or less in area
4. Retaining walls
5. Flag poles
6. Detached lath houses, glasshouses and pergolas
7. Swimming pools
8. Tanks and towers
9. Demolitions
10. Section story additions and interior remodeling work

Plans/Services also Exempt from Drainage Review

Building additions/modifications of any size unless in or adjacent to a natural watercourse or sump.

New buildings and structures on generally flat terrain or with offsite drainage consisting only of minimal sheet flow.

Inspection of drainage violations by property owners as part of normal field work.

Initial investigation of general property owner vs. property owner complaints.

Plans/Services to be Referred to Drainage and Grading Section, Land Development Division

Grading Plans

Building or structures in or adjacent to defined or natural watercourse or sump.

Building impacting existing flood control structures

Hydrology studies

Developments necessitating pump devices for drainage

Unusual property owner or Contract City drainage complaints

DRAINAGE GUIDELINES FOR PLAN REVIEWS

Land Development Division reviews building plans for compliance with Section 308(a) of Title 26 and Chapter 20.94 of Title 20 of the Los Angeles County Code (Building and Utilities Codes, respectively). These laws mandate that a building permit not be issued unless the structure is adequately protected from flood hazard and watercourse flows are not impeded. The following information is provided to assist the applicant in completing processing on this phase of the plan check:

1. The plan should include pertinent data relating to the site drainage and configuration of the development including:

    a. Vicinity map with site address and, in remote locations, route and mileage distances from nearest paved street (and paved cross street).
    b. All property lines to scale, or if scale is approximate, give lot line dimensions.
    c. Location of existing structure, if any, and location of proposed structure(s) covered by this permit with dimensions from property lines.
    d. Existing and proposed contours and pertinent elevations including offsite elevations to establish contributory drainage conditions and to show if cut of fill will be required to construct building(s).
    e. Existing watercourses and drainage paths with arrows to indicate the direction of flow.
    f. Finished pad and finished floor elevation(s) of proposed structures and the description and location of the applicable benchmark.
    g. Existing and proposed onsite drainage facilities (paved or unpaved swales, pipes, gutters, down drains, velocity reducers, etc.) and pertinent offsite drainage facilities.
    h. Show 2% minimum slope away from all proposed structures.

2. For minor drainage contributing to the site flowing in a uniform "sheet flow" pattern, a common solution is to elevate the floors a sufficient distance (6 inches minimum) above the finish grade to keep storm waters out of the structure.

3. If elevation of the floors is not practical, removal of the sheet flow is required by the construction of adequate drainage devices. These devices shall be shown in detail on the plan and are not alter the existing drainage pattern on adjacent property.

4. If the applicant plans to build adjacent to a watercourse or in a flood plain, a licensed Civil Engineer must be retained to prepare engineered plans for removing the hazard.

5. Buildings in major flood plains are also under the provisions of the National Flood Insurance Program. Principal requirements include mandatory purchase of flood insurance as a condition of obtaining loans from a Federally supervised lending institution and maintaining the lowest floor elevation for future construction above 100-year flood level. However, the Federal requirements are typically a minimum and more restrictive County requirements are often applied. (See Chapter 55 of this Manual.)

6. Approvals may be required from other agencies (including U.S. Army Corps of Engineers, California Department of Transportation, State Department of Fish and Game) prior to commencing work within their rights of way or jurisdiction. (See Chapters 50 and 55 of this Manual.)

7. If the proposed development unavoidably changes the drainage conditions on adjacent property then offsite improvements and/or drainage acceptance covenants will be required. Covenants are signed by the affected owner(s), notarized, and recorded prior to plan approval.

8. A separate hydrology study (prepared by a licensed Civil Engineer) is generally required to properly evaluate the scope of an apparent flood hazard as well as size any needed drainage facilities to mitigate the hazard. (See Chapter 34 of this Manual.)

File: _____

DEPARTMENT OF PUBLIC WORKS - COUNTY OF LOS ANGELES
LAND DEVELOPMENT DIVISION - DRAINAGE AND GRADING SECTION

BUILDING PLAN DRAINAGE REVIEW
(SECTION 308-a, ORDINANCE NO. 2225)

Building Plan Check No. _____ District No. _____ Tract/PM No. _____

Address _____

Architect/Engineer _____ Builder/Owner _____

☐ Approved (with minimum foundation requirements [Section 2907(A)]).

☐ Prior to approval resubmit the plans with revisions and corrections as circled below. Return this review sheet and check print for reference.

1. Elevate the top of foundation _____ inches minimum above (existing or finish grade, whichever is higher) (crown of road) (top of curb) with no wall openings. Show elevation of floors and adjacent grades on the plan.

2. Provide for the contributory storm water by constructing interceptor or other approved devices. Show details of all drainage devices including sizes, elevations, type of material, inlet and outlet structures, energy dissipator, etc., and show sufficient ground elevations to establish the drainage pattern.

3. Comply with approved drainage plan for Parcel/Tract Map No. _____.

4. This property is in a Federally designated flood hazard area. The minimum floor elevation is _____ per Bench Mark Reference No. _____. Floor elevation shall be certified by a Land Surveyor or Civil Engineer.

5. Extend the foundation _____ inches below natural grade.

6. The building is located within a flood hazard area. Relocate the structure or remove the flood hazard. Plans showing provisions for removing the flood hazard must be prepared by a Registered Civil Engineer.

7. See comments in red on plan.

8. A grading permit may be required. Contact Building and Safety Division.

9. Add note(s):

   a. Provisions shall be made for contributory drainage at all times.

   b. Obtain approval from _____ for (discharge of drainage) (construction) within their Right of Way.

10. Refer to the attached comments as noted on drainage policy.

11. Other: _____

_____

_____

_____

_____

Date _____ By _____

Telephone (213) 738-2828
or ( )

48-0003 DPW 12/85

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR).

Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

BUILDING OWNER'S NAME	FOR INSURANCE COMPANY USE
	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.)	
CITY STATE ZIP CODE	

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): ☐ NGVD '29 ☐ Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: ☐☐☐☐☐.☐ feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level ____ .
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of ☐☐☐☐☐.☐ feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of ☐☐☐☐☐.☐ feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is ☐☐.☐ feet above ☐ or below ☐ (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is ☐☐.☐ feet above ☐ or below ☐ (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: ☐ NGVD '29 ☐ Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: ☐ Yes ☐ No (See Instructions on Page 4)
5. The reference level elevation is based on: ☐ actual construction ☐ construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: ☐☐☐☐☐.☐ feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: ☐☐☐☐☐.☐ feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME | LICENSE NUMBER (or Affix Seal)

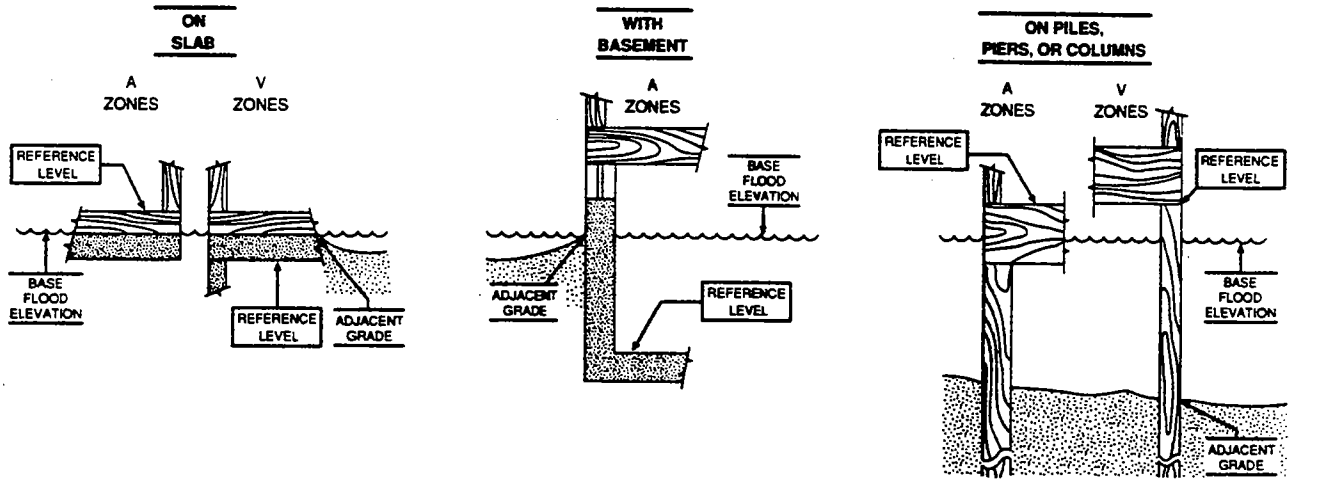
TITLE | COMPANY NAME

ADDRESS | CITY | STATE | ZIP

SIGNATURE | DATE | PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS:



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

11 - 18

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

FLOODPROOFING CERTIFICATE

FOR NON-RESIDENTIAL STRUCTURES

The floodproofing of non-residential buildings may be permitted as an alternative to elevating to or above the Base Flood Elevation; however, a floodproofing design certification is required. This form is to be used for that certification. Floodproofing of a residential building does not alter a community's floodplain management elevation requirements or effect the insurance rating unless the community has been issued an exception by FEMA to allow floodproofed residential basements. The permitting of a floodproofed residential basement requires a separate certification specifying that the design complies with the local floodplain management ordinance.

BUILDING OWNER'S NAME	FOR INSURANCE COMPANY USE POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.)	
CITY	STATE ZIP CODE

SECTION I FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM:

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM INDEX	FIRM ZONE	BASE FLOOD ELEVATION (in AO Zones, use depth)

SECTION II FLOODPROOFING INFORMATION (By a Registered Professional Engineer or Architect)

Floodproofing Design Elevation Information:

Building is floodproofed to an elevation of ☐☐☐☐☐.☐ feet NGVD. (Elevation datum used must be the same as that on the FIRM.)

Height of floodproofing on the building above the lowest adjacent grade is ☐☐.☐ feet.

(NOTE: for insurance rating purposes, the building's floodproofed design elevation must be at least one foot above the Base Flood Elevation to receive rating credit. If the building is floodproofed only to the Base Flood Elevation, then the building's insurance rating will result in a higher premium.)

SECTION III CERTIFICATION (By a Registered Professional Engineer or Architect)

Non-Residential Floodproofed Construction Certification:

I certify that based upon development and/or review of structural design, specifications, and plans for construction that the design and methods of construction are in accordance with accepted standards of practice for meeting the following provisions:

The structure, together with attendant utilities and sanitary facilities, is watertight to the floodproofed design elevation indicated above, with walls that are substantially impermeable to the passage of water.

All structural components are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces.

I certify that the information on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)		
TITLE	COMPANY NAME		
ADDRESS	CITY	STATE	ZIP
SIGNATURE	DATE	PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

NOTICE OF IMPROVEMENT

INFORMATION SHEET

LOCATION OF IMPROVEMENT

_____ RD _____ STREET _____ CITY

PLAN CHECK NO _____

DATE RECEIVED _____

REFERENCE ROADWAY

R D _____ W.S. _____ THOM B _____ H N. MAP _____ PARKWAY _____

LOCAL _____ SECONDARY _____ MAJOR _____ STATE HWY _____

RIGHT OF WAY:

_____ O.K _____ NEED _____

Present Width: _____ Req. Width: _____

C S.B. or Cadastral Map: _____

Zone Case &/or Exception _____

REMARKS: _____

RIGHT OF WAY:

_____ O.K _____ NEED _____

Present Width: _____ Req. Width: _____

C S.B. or Cadastral Map: _____

Zone Case &/or Exception _____

REMARKS: _____

RIGHT OF WAY:

_____ O.K. _____ NEED _____

Present Width: _____ Req. Width: _____

C.S.B. or Cadastral Map: _____

Zone Case &/or Exception _____

REMARKS: _____

ROAD DEPARTMENT INVESTIGATION:

BY: _____

DATE: _____

REFERENCE: _____

Pavement Condition: Good _____ Bad _____ High _____

Property Set Back: O.K. _____ Obstructed _____

Utilities: O.K. _____ To be Moved _____

Sub-Struct. Map _____

PUBLIC SERVICE:

D S. No. _____ Date _____

Lot Splits No _____ Date: _____

Parcel No. _____ Date: _____

Tract No. _____ M B. _____ Pages _____

Status of _____

Adjacent Tracts _____

REMARKS: _____

FIELD TRIP:

By: _____ Date: _____

EXISTING CONDITION

Curb & Gutter				
Sidewalk				
Driveways				
Drainage				

REMARKS: _____

DEPARTMENT OF PUBLIC WORKS

P.C. No.

LOCATION				R.D.	W.S.
				THM	H.N.M.
CITY OF					
PERMITTEE					
ADDRESS					
PHONE			DATE		

C & G		WALK	ST. LIGHTS	ST. TREES	COMM. DR.
C & G		WALK	ST. LIGHTS	ST. TREES	COMM. DR.
MISC.					

NAME NO.

FRONT SIDE

LOCATION			
REVIEWED BY			
D.S. NO.	DATE	R/W ORDERED	
LOT SPLITS NO.	DATE		
PARCEL NO.	DATE	R/W ACQUIRED	
TRACT NO.	M.B.	PAGES	
STATUS OF			
ADJACENT TRACTS			
ZONE CASE &/OR EXCEPTION			

REAR SIDE

16-13

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

AGREEMENT TO IMPROVE
ADJACENT HIGHWAY, STREETS, OR ALLEYS

The undersigned certifies that he is the owner in fee simple of the property described as:

_____

Legal Description

_____

_____

Street Address

hereby agrees to construct the following road improvements as specified in the Zoning Ordinance Letter in accordance with the standards of the Department of Public Works:

It is further agreed that the building(s) to be constructed, altered, or enlarged as shown on plans filed with the Department of Public Works, Building and Safety Division, on and identified as Plan Check No. will not have utilities connected until road improvements have been completed and accepted by the Director of Public Works and any required deeds have been executed. The owner also agrees to enter into a new secured agreement to guarantee the aforementioned road improvements should the County agree to utility connections prior to the completion of said road improvements.

_____

Owner(s)

_____

_____

_____

(Mailing Address)

_____

ALL SIGNATURES TO BE ACKNOWLEDGED
BEFORE A NOTARY PUBLIC

CHAPTER 17

BUILDING PERMIT INSPECTIONS

DRAFT

The provisions of Title 26 of the Los Angeles County Code (Building Code) apply to the construction, alteration, moving, demolition, repair, use of any building or structure and grading within the unincorporated territory of the County of Los Angeles and to such work or use by the County of Los Angeles in any incorporated city not exercising jurisdiction over such work or use. These provisions do not apply to work located primarily in a public way, public utility towers and poles, equipment not specifically regulated in the Building Code, hydraulic flood control structures, work exempted by Section 301 of Title 26 of the County Code (Building Code,) or minor work of negligible hazard to life specifically exempted by the building official with approval of the Board of Appeals. Additions, alterations, repairs and changes of use or occupancy in all buildings and structures shall comply with the provisions for new buildings and structures except as otherwise provided in Sections 104, 307, and 502 of the Building Code.

Building Permits and subsequent inspections are required whenever a person, firm or corporation erects, constructs, enlarges, alters, repairs, moves, improves, removes, connects or demolishes any building, structure, or automatic fire-extinguishing system. Any grading outside of the building site will require a grading permit. Section 301 contain exceptions.

All building permit applications must be submitted to an office of the Building and Safety Division which collects all fees and processes all applications. Before a building permit can be issued, a building plan must be approved. (See Chapter 16 of this Manual.) All building inspection functions are the responsibility of Building and Safety Division. Personnel in other Divisions serve only as advisors to Building and Safety Division in this matter.

I. Technical Assistance Provided by Building and Safety/Land Development Division

The following are the areas in which assistance is normally given by the sections in Building and Safety/Land Development and Materials Engineering Divisions:

A. Drainage and Grading Section - Building and Safety/Land Development Division

The Drainage and Grading Section reviews revisions of previously approved plans. Building and Safety Division personnel may also consult with the Section personnel concerning the issuance of building permits prior to the completion of drainage improvements associated with tentative map conditions.

B. Geology and Geotechnical Engineering Development Review - Materials Engineering Division

Occasionally, the District Building and Safety Office will suspect that encountered geotechnical conditions may not be the same that was previously reported during the Building Plan approval process as described in Chapter 16 of this Manual. The office may require geotechnical inspection or review after permit issuance or during construction and may require a geotechnical report addressing their concerns. Geotechnical Development Review personnel may be requested to inspect the building site, confer with the private consultants, review the geotechnical report, and/or issue a review sheet of their comments and recommendations. Copies of the review sheets are generally sent to the Building and Safety District Office and to the consultant by the Materials Engineering Division. A copy is sent to the submitter of reports by the Processing Center of the Building and Safety/Land Development Division.

II. Wall and Fence Bond Exoneration

Whenever a wall or fence is required as part of the tentative subdivision map approval and a bond is submitted guaranteeing construction, Building and Safety/Land Development Division personnel are notified by Bond Administration personnel through a letter (see Page 17-3). It is the responsibility of Building and Safety Division to approve all wall and fence plans and to verify that they are constructed in accordance with the Building Code and the tentative subdivision map conditions (refer to Chapter 13 of this Manual).

The wall and fence bond may be exonerated at the completion of the required work. The process begins at the request by either the contractor, engineer or developer to Building and Safety Division. Building and Safety Division sends the lower portion of the letter on Page 17-3 noting that all required work has been completed.

When the letter is received by the Bond Administration Subunit of Development Management Section, the bond exoneration process described in Chapter 13 takes place. A standard letter (see Pages 17-4 through 17-6) to the developer with a copy to surety company completes the process.

50.20

Superintendent of Building
Building and Safety Division

Date _____

_____ Office

MAPPING DIVISION
TRACT NO._____

( ) 1. Five-foot chain link fence according to County Engineer Standard required along _____

( ) 2. Five-foot concrete block wall according to County Engineer Standard required along _____

( ) 3. Combination concrete block wall and chain link fence according to County Engineer Standard required along _____

( ) 4. No fence or wall is required.

( ) 5. Upon completion of the wall or fence please sign below, detach and return to Mapping Division.

By _____
Mapping Division

Mapping Division

Attention: Subdivision Section

The (fence) (wall) for Tract No._____ has been completed in a satisfactory manner.

_____
District Office Manager

_____
Date

Revised 5/83

17-3

MWFEXN - EXONERATION OF WALL/FENCE SECURITY - COUNTY

DEPARTMENT OF PUBLIC WORKS

850 S. VERMONT AVENUE
LOS ANGELES, CALIFORNIA 90020
Telephone: (213) 738-2011

THOMAS A. TIDEMANSON, Director
HIAM BARMACK, Chief Deputy Director
JAMES L. EASTON, Chief Deputy Director
WYNN L. SMITH, Chief Deputy Director

ADDRESS ALL CORRESPONDENCE TO:
850 S. VERMONT AVENUE
LOS ANGELES, CALIFORNIA 90020

IN REPLY PLEASE
REFER TO FILE:

_____, 198____

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

_____

_____

_____

Gentlemen: Dear _____:

WALL/FENCE IMPROVEMENTS

TRACT PARCEL MAP NO. _____

All work guaranteed by the improvement security listed below has been completed to the satisfaction of the Director of Public Works.

The Director of Public Works, on behalf of the County of Los Angeles, approved the work this date and exonerated the following listed surety bond:

Bond Number _____

Amount - $ _____

Surety - _____

The Director of Public Works, on behalf of the County of Los Angeles, approved the work this date and released the following security deposit:

Certificate of Deposit Number _____

Letter of Credit Number _____

Passbook Number _____

Amount - $ _____

Financial Institution - _____

_____

Tract Parcel Map No. _____

_____

The Director of Public Works, on behalf of the County of Los Angeles, approved the work this date and hereby refunds the following cash deposit:

Receipt Number _____

Date of Deposit - _____

Amount - $ _____

The Director of Public Works, on behalf of the County of Los Angeles, approved the work this date and reduced the following surety bond by $ _____:

Bond Number _____

Original Amount - $ _____

Surety - _____

The Director of Public Works, on behalf of the County of Los Angeles, approved the work this date and reduced the following security deposit by $ _____:

Certificate of Deposit Number _____

Letter of Credit Number _____

Passbook Number _____

Original Amount - $ _____

Financial Institution - _____

_____

Tract Parcel Map No. _____

_____

ONE PHASE

Enclosed is your Certificate of Deposit. Letter of Credit. Savings Passbook.

A warrant for your cash deposit amount is being processed and will be forwarded to you in approximately one month.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

Carl L. Blum
Division Engineer
Land Development Division

LG:___ 48

Enclosure

cc:_____ (Entity)

Entity address _____
for envelope
ONLY _____

bc: CLB, File

DRAFT

CHAPTER 18

PRIVATE DRAIN PLAN CHECK

A private drain (PD) is a permanent drainage facility designed and constructed by a developer to remove a flood hazard from a property. For the purposes of this Manual, the conditions under which a drainage system becomes a private drain is presented in Item I on Page 36-1, Chapter 36. Usually a private drain is related to a grading project and/or a subdivision. If the private drain is within the boundaries of Los Angeles County Flood Control District, it can be transferred to the County for maintenance provided it meets the criteria presented in this Manual. If the private drain is within the Los Angeles County but outside the boundaries of the Los Angeles County Flood Control District, a Drainage Benefit Assessment Area (DBAA) can be established. (See Chapter 19 of this Manual.) The need for a private drain and DBAA is established during the grading plan check or at the time of tentative review for subdivisions. (See Chapters 11 and 14 of this Manual.) Under the circumstances discussed in Item I.B on Page 36-1, Chapter 36, a private drain could remain privately maintained (i.e., maintained by the property owner). The private drain plan check procedures are as follows:

A. Issuance of Private Drain Number and Obtaining Bench Marks

1. Numbers For Private Drains in County Unincorporated Areas

When the private drain or miscellaneous transfer drain plan (MTD) or hydrology study and other documents are first submitted to and accepted by the Land Development Processing Center, the PD or MTD private drain number is issued. The procedure for issuing private drain numbers consists of the personnel at the Land Development Processing Center, contacting the Drainage and Grading Section who maintains the log of private drain numbers. The Section is supplied with the tract, parcel map number or if neither are involved, the address and the grading plan check number. The Section then reviews the tract or parcel map plan to verify that a private drain number has not already been issued for this drainage area. After completing the check against duplicate numbers, a new number can be issued by noting in the private drain log, the submitted information and the address. The assigned private drain number is then given to the Processing Center personnel who give it to the applicant and notify LDMA personnel who will enter the number into the tracking system.

2. Numbers For Private Drains in Contract Cities

Contract Cities send the private drain plans, supplementals information justifying the design and a departmental service order to their City Service Coordinator in Programs Development Division. This coordinator then contacts the Drainage and Grading Section and obtains a private drain number from them. The City Service Coordinator then notifies the city and the applicant of the private drain number.

3. Bench Mark Data

All storm drain surveys and elevations must be tied to a publicly referenced bench mark. It is the responsibility of the County Surveyor to maintain all Bench Mark records. The design engineer may obtain bench mark data from Survey Division or from the list of bench marks maintained by the Department for roads. A copy is available at the Land Development Processing Center.

B. Collection of Fees and Deposits

The private drain plan check requires a deposit based on the project valuation and fees, described below, in advance of the work being started. The County determines the amount to be collected for

private drains within the County unincorporated area and administers the deposit as described in Item 1 below. Contract cities collect the deposits for private drains within their cities. The charges against these private drains are administered as described in Item 2 below.

1. For County Drains Within County Unincorporated Areas

   The initial deposits covering plan checking, hydrology study and transfer and bond release processing costs and LDMA fees are collected at the time the private drain plans are submitted and accepted by the Processing Center. The amount to be collected is based on the data shown on Page 18-9.

   During the plan checking of the private drain, an account record is kept in the Section of the charges against that initial deposit. Should that initial deposit become insufficient, additional funds will be requested. All surplus deposit funds are returned to the applicant upon the project being accepted/transferred to the Flood Control District (see "Private Contract Storm Drain Plan Deposit Fees" on Page 18-9) and/or release of the bond.

2. For Private Drains Within Contract Cities

   Plan check fees and deposits are established by the City. The City processes the plans and documents and sends them to their County City Service Coordinator, who in turn sends a Departmental Service Order, noting the amount of funds available for this project. When the funds are exhausted, the City is billed by Fiscal Division as work progresses during the plan check. Any surplus funds are handled by the City and their return to the applicant is the City's responsibility in accordance with City policy.

C. Plan and Document Submittals

When applicable, separate submittals must be undertaken to Drainage and Grading and Geology and Soils Sections. The required submittals for each section are as follows:

1. Drainage and Grading Section

   All private and miscellaneous transfer drain plan and document submittals to Drainage and Grading Section must contain the information shown on the checklist on Pages 18-10 and 18-11. For Projects within County unincorporated areas, the plan submittal is at the Land Development Division Processing Center Public Counter. For all private drains within contract cities, the initial submittal of plans and documents may be through the city to the County's City Service Coordinator in Programs Development Division. This coordinator then submits the plans and data to the Land Development Processing Center. The materials are logged in the LDMA tracking system and sent to Drainage and Grading Section. Subsequent submittals for rechecks, etc., are to be submitted directly to the Land Development Division Processing Center. Prior to acceptance of any plan rechecks or any data, the procedure for "Processing of Improvement Plans for Cities" in Chapter 14 of this Manual must be followed and the form in that Chapter completed.

2. Geology and Soils Section

   Geotechnical report review by Geology and Soils Section will be required when the Drainage and Grading Section determines that the following geotechnical hazards exist along the alignment of the storm drain: Uncertified Fills, soil and/or rock requiring special excavation procedures,

landslides, surface erosion, gross slope failure, surficial slope failure, rock falls, soils subject to compression and/or hydroconsolidation, expansive materials, soils subject to liquefaction or lateral spreading, deleterious chemicals in the groundwater, soil and/or rock, peat, organic materials, sanitary landfills, possible hazards to existing improvements such as structures, utilities, etc., high groundwater affecting construction and design, etc. As a general rule whenever, the slope exceeds 3 horizontal to 1 vertical, one of these hazards may exist and a review by that section will be requested. In addition, whenever, the drainage system includes open channels, subdrains, dams and/or basins, the geotechnical report will be reviewed by that Section. To reduce review time, applicants should submit two extra sets of the geotechnical reports covering the above hazards at the time of plan submittal. (See next paragraph.)

When report reviews are required, all private and miscellaneous transfer drain plan and document submittals to Geology and Soils Section should consist of two copies of the subsurface investigation and geotechnical report (the original and duplicate) prepared in accordance with the requirements of Chapter 49 of this Manual in order to allow simultaneous review. Specific detailed requirements are noted in Chapter 49 of this Manual.

The purpose of the subsurface exploration and geotechnical report is to obtain sufficient exploratory information as discussed in Chapter 49 to permit the design engineer to assess the geotechnical problems which will affect the design, construction, and operation and maintenance of the project.

It is the responsibility of all design engineers and geotechnical consultants to coordinate their effort so that the materials submitted to both sections present consistent information. It is also the responsibility of the grading, drainage and geotechnical reviewers to coordinate their efforts so that the comments on the review sheets are consistent.

At the time of acceptance of the materials for review, the applicant must complete the post card Form A. (See instructions in Chapter 12 of this Manual.)

D. Private Drain Plan and Document Review

The plan check consists of finding that the submitted plans and documents meet public health and safety concerns by meeting minimum Department design standards and criteria. For Private Drains and Miscellaneous Transfer Drains constructed as part of a new subdivision development, it is imperative that the Road, Storm Drain, Sewer, Water and Grading plans be coordinated by the developer. There must be adequate cross-referencing so that the errors and omissions are avoided. As part of this coordination, it must be verified that the bench marks used for the Storm Drain, Sewer and Road plans are the same.

The Road, Storm Drain and Grading plans must be processed in conjunction with the drainage concept and the hydrology study. The reviewers of each of these plans shall coordinate their reviews and comments so that there will be consistence in all of the comments establishing approval.

Because certain information is required for storm drain design, the following constraints are placed on the Private Drain plan check processing:

1. The hydrology study must be approved before the Private Drain plan check can start.

2. The Private Drain plans will not be approved until:

   a. The Grading plan has been approved.

   b. The Road plans have been essentially approved.

The minimum standards for specific drainage facilities are described in the following chapters:

Storm Drains - Chapter 36
Small Dams - Chapter 38
Subdrains - Chapter 39
Detention Basins - Chapter 40
Debris Basins - Chapter 41
Debris Carrying Facilities - Chapter 42
Retention Basins - Chapter 43

Upon receipt of all required materials, the Land Development Processing Center sends the package to the Drainage and Grading Section for review. If there are complex problems, the Section will send some of the materials to other Sections or Department specialists for review such as Geology and Soils Section, Design Division, Planning Division, Hydraulics and Water Conservation Division, etc., by memorandum. Chapter 36 of this Manual notes the conditions when it is required to send materials to other divisions for their review and approval. Their comments are incorporated into the review by the Drainage and Grading Section Plan Checker, who coordinates the entire review.

If the project is within the U.S. Army Corps of Engineers (Corps) right-of-way, that portion of the project must meet their standards. (See Chapters 36 and 50 of this Manual.) It is the applicants responsibility to have the project plans reviewed and approved by the Corps before Department approval. (See Chapter 55 of this Manual.)

After the end of each review, a review sheet is submitted to the applicant. If the plans are not approved, a pink colored letter titled, "The Plans are Disapproved," is sent to the applicant (A sample copy is on Page 18-12.) If the disapproval is based on failure to meet FEMA regulations, the form on Page 18- 13 is printed in pink and is completed by the reviewer and sent to the applicant. The plans and other documents must be corrected and resubmitted for review. If the plans are conditionally approved, a green colored letter titled "The Plans are Conditionally Approved", is sent to the applicant. (A sample copy is on Page 18-14.) If the project is approved but FEMA regulations must be satisfied, the form on Page 18-13 is printed in green is completed by the reviewer and sent to the applicant.

If a bond is to be posted to guarantee completion of the private drain, a cost estimate for bond purposes must be completed and submitted. A copy of this form is on Pages 18-15 through 18-17. The required construction inspection initial deposit is determined using the table on Page 18-18.

E. Federal Emergency Management Agency Review

The Federal Emergency Management Agency (FEMA) must review all storm drain plans within "Zone A" of a Flood Insurance Rate Map (FIRM) to determine that the storm drain will meet the Agency's minimum standards to reduce or eliminate potential flood hazards and to reduce or eliminate mandatory flood hazard insurance. (See Chapters 36, 50, and 55 of this Manual.) FEMA Publishes a Flood Insurance Rate Maps (FIRM). Construction is limited in Zone A. In order to have a normal development

in this zone, drainage improvements must be constructed to change the site to another zone. (See Chapter 55 of this Manual.)

The Department is responsible for enforcing this requirement. As noted on the Department's FEMA Check List on Page 18-13, the Department collects the noted fee and sends that fee and required documents to FEMA. FEMA will review the plans for compliance with the regulations and contact the Department. A copy of FEMA's checklist may be obtained from the Planning Division. The minimum conditions and criteria for map revisions is in Chapter 36 of this Manual.

Upon receiving the required information in a request by the design engineer and fees, Building and Safety/Land Development Division will request Planning Division to prepare a request for FIRM Revision and Planning Division will process the final Letter of Map Revision (LOMR) with FEMA. The review process by FEMA will begin with a 60 day review period for completeness. Once FEMA determines that the submitted materials constitute a complete package, it will review the submitted maps and calculations for compliance with FEMA policies and may issue a Conditional Letter of Map Revision (CLOMR). This letter must be received before plan approval. Once the project is completed and accepted by the Board of Supervisors for maintenance, FEMA must be notified. The approval from FEMA comes in a Letter of Map Revision (LOMR) with a revised map. (See Sample on Pages 18-48 through 18-50.) Copies of the Conditions and Criteria from Map Revisions are available from Drainage and Grading Section in Land Development Division. (See Chapter 55 of this Manual for additional regulations from FEMA.) The applicant must be familiar with these conditions before completing all the required FEMA Forms.

F. Connections into Nontransferred Storm Drains

All connections into an existing private drain, previously approved by the Drainage and Grading Section but not transferred to the County, require specific review by Land Development Division. If the plans are not approved, a pink colored letter titled "Letter of Objection" is sent to the applicant. If the connection is satisfactory, a green colored letter titled, "Letter of Non-Objection" is sent to the applicant containing instructions for obtaining a permit. A separate $500 plan checking fee is required to process "Letters of Non-Objection."

G. Connections into Transferred Storm Drains

Plan approval of minor connections to all transferred storm drains must be performed in accordance with Chapter 14 of this Manual. If the connection is part of a Private Drain or a Miscellaneous Transfer Drain, plan approval is performed by Land Development Division. (See Item F for the procedure.) However, a connection permit must be obtained from the Permits and Subdivisions Section of Construction Division (Telephone (818) 458-3129).

H. Resubmittals

Additional information and revised plans must be submitted in the same manner that the original information was submitted. (See Item C on page 18-2). It will be of great assistance in processing if the name of the reviewer is noted on the submitted post card. It is very important that work being reviewed by a private consultant be noted on the post card and that the counter personnel are advised. For further information, contact the program coordinator at (818) 458-4930. (See Chapter 36 of the Land Development Procedure Manual for details.)

I. Obtains Copies of Recently-signed Improvement Plans:

If an engineer wishes to obtain copies of Improvement plans shortly after they have been signed, the engineer must utilize the services of a bonded Blueprint Company. This company is permitted to pick up the originals at the Processing Center and make copies provided the originals are returned within 24 hours.

J. Private Drain Construction and Inspection

Before a construction permit can be issued, permits from other agencies may be required. The most common permits are described in Chapter 14 of this Manual.

All construction inspection for private drains is performed by the Subdivision Construction Inspection Section of Construction Division (Telephone (818) 458-3141). The Permits and Utilities Section of that Division collects all deposits and fees for construction inspection which are based on the final construction bond amount. The procedure for obtaining a storm drain construction permit is on Page 18-54. The construction permit application form on Page 18-55 the road excavation permit form on Page 18-56 and the connection permit form described in Chapter 14 of this Manual must be completed and submitted at the same time. For private drains in contract cities this section coordinates the construction inspection with the City, who collects the fees and deposit funds for construction inspection within their jurisdiction working through the City Services Coordinator. It is the responsibility of the construction inspector to verify that the construction is in accordance with the approved plans and to notify Drainage and Grading Section if unanticipated field conditions are encountered that require changes in the approved plans.

K. Private Drain Transfer to Department Control

Once constructed and approved by the construction inspector, a notice of completion is sent to the Drainage and Grading Section. This form starts the transfer and/or acceptance process. Upon receipt of this document, the Drainage and Grading Section verifies that all fees have been paid and all right-of-ways are adequate and have been properly recorded.

All easements must be reviewed and approved prior to storm drain plan approval and meet the requirements described in Chapter 36 of this Manual. All easements within a new subdivision must be processed in accordance with the processing of the final map as covered in Chapter 29 of this Manual. All easements not within a subdivision shall be processed as follows:

1. Concurrent with its review of off-site easement areas on plans, Land Development Division will request prospective developers to submit the following data for review and preparation of off-site easement documents:

    a. Title policy (issued within the past six months) for the subject property.
    b. Copies of all documents referenced in title policy.
    c. Drawing showing other existing easements as referenced in the title policy.
    d. Copies of vesting and other supporting documents.
    e. Copies of any referenced documents shown in the legal description.

2. Developers or owners will submit this information directly to Mapping and Property Management Division along with copies of the preliminary easement sketches (being reviewed concurrently by Land Development Division).

3. Upon notification that the off-site easement areas are finalized, Mapping and Property Management Division will prepare the necessary easement documents and transmit to Land Development Division when completed.

4. Land Development Division will coordinate the completed documents with the developers prior to recordation of the subdivision or, in the case of right of way revisions, prior to transfer of the drains.

5. Upon full execution, the documents will be recorded by Mapping and Property Management Division.

6. Building and Safety/Land Development Division will hold approval of plans involving off-site easements until Mapping and Property Management Division verifies the accuracy of Items 1.a through 1.e, inclusive.

These guidelines will not apply to quitclaim documents in cases where an existing easement will be quitclaimed from the County to the Flood Control District or from a City (having an appropriate warranty agreement) to the Flood Control District. Again, all quitclaim documents must be approved prior to storm drain approval. All easements and quitclaim documents must be recorded prior to transfer or acceptance by the County.

Once everything is in order, one of the following procedures are performed according to the final disposition of the private drain ownership:

1. Transfer Ownership to the Flood Control District

   Subject to the availability of funding, a letter recommending acceptance of the work and transferring and conveying ownership to the Flood Control District is sent to the Board of Supervisors for adoption. Along with this letter is a Quitclaim Deed, if needed, transferring all easements in the County's name to the Flood Control District.

2. Acceptance for Operation and Maintenance (Projects Outside the Boundaries of the Flood Control District)

   This procedure must be utilized for projects north of Avenue S in the Antelope Valley and on Santa Catalina Island. Projects in these areas can only be accepted for operation and maintenance by a contract with the County. Usually, these projects are part of a Drainage Benefit Assessment Area (see Chapter 19), which provides a source of funds for operation and maintenance of the project.

   Once the project is accepted and bonds released by the Bond Administration Subunit as described in Item J, on Page 18-6, a memorandum of acceptance is sent to Planning Division.

3. Transfer Ownerships of Private Drains Within Contract Cities

   Before any transfer of a private drain or a miscellaneous transfer drain to the Flood Control District can occur, there must be a one-time right-of-way agreement executed between the Flood Control District and the City. A sample copy can be obtained from the Drainage and Grading Section.

Once the private drain is available for transfer, a letter is prepared by the Drainage and Grading Section for the Director's signature as City Engineer. This letter recommends that the city accept the private drain. Also prepared in this package is a city council resolution requesting the Flood Control District to accept the private drain. Along with this resolution is a Quitclaim Deed, if needed, of the easements from the city's name to the Flood Control District (a sample of such a Quitclaim Deed can be obtained from the Drainage and Grading Section).

After the City Council accepts and adopts the above package, Drainage and Grading Section of Land Development Division prepares the needed recommendation for adoption by the Board of Supervisors.

After one of the above has been formalized by the required agencies, a memorandum noting that the private drain is now the responsibility of the Department is sent to Construction Division, Flood Maintenance Division, Mapping and Property Management Division, and to the Secretary of the Nomenclature Committee which is chaired by the Division Head of Mapping and Property Management Division. This completes the acquisition of the private drain and incorporates it into the Flood Control System.

L. Bond Exoneration

After acceptance of the project as described in Item H, the bond exoneration process begins in the Bond Administration Subunit. This consists of sending a letter to the developer, with a copy to the surety company. The sample letter on Page 18-85 is used when the project has been accepted by the Board of Supervisors for the Flood Control District as described in Item K, 1 and K, 3 on Pages 18-7 and 18-8. The sample letter on Page 18-86 is used when the project is outside the Flood Control District boundaries and it is accepted for operation and maintenance by another party such as a DBAA as described in Item K.2 on Page 18-7. This allows the exoneration of all bonds and agreements between the developer and the County as presented in Chapter 13.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

PRIVATE CONTRACT STORM DRAIN - (PRIVATE DRAIN) PLAN CHECK DEPOSIT FEE

(Unincorporated Areas Only)

Pursuant to Sections 21.36.01(C) and 21.36.040 of Title 21 of the County Code, a storm drain plan check deposit is collected for checking all private drains submitted for subdivisions. The initial deposit is bases on the construction cost, as estimated by the design engineer, in accordance with the following schedule:

Construction Cost Estimate	Deposit Amount
Less than $100,000	$1,200 +1% of estimated value
Over $100,000	$2,200 +0.50% of estimated value
	+ $450 for P. D. Transfer & Bond Release

Also, an additional $500 deposit is necessary at the time of submittal of the hydrology study.

In addition, pursuant to Section 2.83.060(13) of Title 2 of the County Code an LDMA surcharge fee on each project is collected as follows:

Construction Cost Estimate	Fee Amount
Less than $50,000	$100
Over $50,000	$150

THIS TOTAL INITIAL DEPOSIT AND FEE IS TO BE SUBMITTED WITH THE ORIGINAL PLAN SUBMITTALS. ALSO, AT THE TIME OF PLAN SUBMITTAL, ALL APPLICANTS SHOULD SUBMIT A COST ESTIMATE TO THE PROCESSING CENTER FOR VERIFYING THE INITIAL DEPOSIT FOR THEIR PROJECT.

The Land Development Division will keep an accurate account of time charged for the review of the plans. If time charges do not equal or exceed the amount of deposit, a refund of the excess deposit will be sent to the depositor following the completion of plan processing and acceptance of the storm drain by the maintaining organization. An additional deposit will be required on projects where the original estimate was too low for the actual amount of checking or rechecking.

Engineer _____ COUNTY OF LOS ANGELES Phone No. (__) _____

Date_____ **DEPARTMENT OF PUBLIC WORKS** ( ) Plans Accepted

Tract/Parcel Map _____ LAND DEVELOPMENT DIVISION ( ) Plans Rejected

Private Drain No. _____ STORM DRAIN PLANS

In order to expedite and properly process your submittal, the items listed below are necessary. It is our policy to review only complete submittals. Before submitting the following materials, there must be an approved hydrology study or that the hydrology study is in direct check: (See LDMA files.)

( ) 1. Engineer's construction cost estimate
( ) 2. Checking fee or deposit
( ) 3. Submit the following number of sets of Storm Drain plans:
  ( ) a. First submittal - 2 sets of Storm Drain plans
  ( ) b. Rechecks - 2 sets of Storm Drain plans and check prints
( ) 4. Submit one set of all supporting plans (if not previously submitted)
  ( ) Road Plan
  ( ) Final Map
( ) 5. Check for general items to be shown on all Storm Drain plans. (See Chapter 36 of the Land Development Procedure Manual for details.)
  ( ) a. Title Block on every page
  ( ) b. General notes (including all structural and special construction notes as needed).
  ( ) c. Location Map showing the proximity of the job site
  ( ) d. Index map showing location of proposed storm drain lines and page location
  ( ) e. Bench Mark
  ( ) f. North arrows
  ( ) g. Hydraulic Elements Table
  ( ) h. List of all standard drawings used (L.A.C.F.C.D., A.P.W.A. Department of Public Works and County Engineer)
  ( ) i. Standard structures and required call outs
  ( ) j. Engineers signature and seal on each sheet of plans
  ( ) k. Plan and Profile views for all storm drain lines
  ( ) l. Scales (plan, profiles, index maps, details, etc.)
  ( ) m. Hydraulic Elements Table
  ( ) n. Required storm drain profile view information as follows:

Pipe size, D-load, Design Flow, Stationing, Slopes, Structures, Utilities, Existing and Proposed Ground, Hydraulic Grade lines, Scale and any special construction notes, i.e., special pipe bedding, additional concrete cover, trenching instructions, etc. (See Chapter 36 of the Land Development Division Procedure Manual.)

NOTE: PLAN & PROFILES SHOULD BE SHOWN ON DRAWINGS WITH UPSTREAM GRADIENT & STATIONING PROCEEDING FROM LEFT TO RIGHT.

( ) o. Required storm drain plan view information as follows:

Storm drain alignment, curve data, streets, catch basin and inlet facilities, drawing scale, north arrow, easements shown with bearings and distances, contours and topography shown at all inlets and outlets, access drives that lead to Flood Control facilities, special structures and details, dimensions and sizes, cross section details, fencing and access gates, grading related to the storm drain plans, debris facilities, slopes and elevations, lot lines and tract boundaries, etc.

( ) p. Required Detention, Debris and Retention Facility information as follows:

Debris cone area, required and provided basin storage volume, proposed grading and contours that will convey flows to basin, elevations at the top and bottom of all slopes, A.C. paving areas, facing slab details, debris slopes shown in profile view, fencing layout and details for all structures, cut off walls, facing slabs, outlet works, inlets, access roads, driveways, etc.

Details and examples of required drafting and layout of plans can be obtained by examples in the L.A.C.F.C.D. Drafting standards Manual, Chapter 36 of the Land Development Procedure Manual and examples of previous plans that have been approved are available in the Map Vault located in the lobby.

6. ( ) If in City, service request is required.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION

Telephone (818) 458-4921

TO: _____ DATE _____

_____

_____ FILE NO. 2-15.40

ATTN: _____

REVIEW OF PROPOSED DRAINAGE IMPROVEMENTS P.D. No. _____
"_____ CHECK" ( ) TR/PM NO. _____
TRANSMITTAL DATE _____

THE PLANS ARE DISAPPROVED

We have reviewed the plans for the proposed drainage improvements. Make corrections as shown on the returned set of plans and as noted below. Resubmit two (2) revised sets of plans for further consideration. Additional changes may be required as determined by further review.

After the plans are corrected and approved, it will be necessary to obtain a connection and/or inspection permit for the proposed drainage improvements prior to the commencement of construction.

[ ] Prior to further review of the proposed plans an additional plan checking fee of $_____ must be submitted under account number L_____.

[ ] Transfer of the drainage improvements is subject to the Federal Emergency Management Agency (FEMA) approved amendments to the Flood Insurance Rate Maps (FIRM). See attachment for requirements.

[ ] U.S Army Corps of Engineers 404 Permit and State Fish and Game Permit may be required.

[ ] Caltrans Approval of plans are required.

[ ] Corp of Engineers Approval of plans are required.

[ ] Submit a statement from the Consulting Geotechnical Engineer indicating that no geotechnical hazards are contributory to/or within the proposed sites of the debris dams and basin facilities.

COMMENTS:

Reviewed by: _____

FEMA'S CONDITIONAL LETTER OF MAP REVISION REQUIREMENTS

A. ( ) Submit the following package of information to the Department of Public Works, required for a "Conditional Letter of Map Revision" (CLOMR) to Flood Insurance Rate Map (FIRM) No. 065043-_____ to be applied for by the Department:

1. A written general description of the changes proposed to the flood plain and/or watercourse.

2. One set of proposed storm drain or channelization plans signed and stamped by a registered civil engineer and complete hydraulic analysis signed and stamped by that registered engineer for the project.

3. Proposed new delineation of the flood plain boundaries superimposed on the existing FIRM.

4. Proposed new topographic information, such as grading plans, that will be used in conjunction with the storm drain/channelization plans.

5. In addition to the above, submit any information directly to FEMA as they may request in accordance with the document entitled "Data Request Checklist for Conditional Letter of Map Revision" after their initial plan review for completeness in 60 days. A copy of the checklist is available from Land Development Division. (See Sample on Pages 18-20 through 18-28.)

B. ( ) Submit payment for FEMA' initial plan checking fee for a CLOMR by including a check or money order made payable to the United States Treasury in the following amount, as appropriate: (Schedule revision date: March 1990)

1. New bridge or culvert.....$ 490
(no channelization)

2. Channel modifications only..... $ 560

3. Channel modification and new bridge or culvert..... $ 735

4. Levees, berms, or other structural measures..... $ 945

5. Structural measures on alluvial fans.....$2,800

FEMA will normally contact the developer or engineer directly in writing within 60 days regarding adequacy of review, and any additional plan check fees required.

C. ( ) Anticipate a request from FEMA for a complete hydraulic analysis to evaluate changes by utilizing FIRM Q's upon which the original FIRM is based.

1. Most FIRM Q's are available in FEMA's Flood Insurance Study, Los Angeles County, California, Unincorporated Areas (Community Number 065043) Revised: November 15, 1985, FEMA (3 Volumes). Contact the Drainage Planning Section of Planning Division at (818)458-4308.

2. Other original FIRM Q's not listed in the Flood Insurance Study must be obtained in writing from Planning Division. Contact the Drainage Planning Section of Planning Division.

D. ( ) Consult the latest version of FEMA's "National Flood Insurance Program and Related Regulations" for specific criteria for design of drainage systems. (Copies can be obtained from the cashier or See Chapter 50 of this Manual for obtaining a copy through FEMA.)

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION

Telephone (818) 458-4921

TO: _____
_____
_____

DATE _____

FILE NO. 2-15.40

ATTN: _____

P.D. No. _____
TR/PM NO. _____
TRANSMITTAL DATE _____
THOMAS GUIDE PAGE _____

THE PLANS ARE CONDITIONALLY APPROVED

Subject to the availability of funding and the requirements below, the proposed drainage improvements for P.D. _____ will be recommended for future County operation and maintenance, if construction commences within two years.

[ ] Make corrections as shown on the attached plans as noted in comments

[ ] Bond Amount = $_____.

[ ] File 13 sets of the approved plans to the Drainage and Grading Section.

[ ] Contact the Permits and Utilities Section of Construction Division at (818) 458-3129 to obtain a connection and/or inspection permit(s) for the proposed drainage improvements and to determine if there are restrictions on constructing these improvements during the period of October 15 through April 15.

[ ] Transfer of the Drainage improvements is subject to the Federal Emergency Management Agency (FEMA). See attachment for requirements.

[ ] U.S Army Corps of Engineers 404 Permit and State Fish and Game Permit may be required.

[ ] Caltrans Approval of plans are required.

[ ] Corp of Engineers Approval of plans are required.

FAILURE TO OBTAIN THE PERMIT(S) PRIOR TO CONSTRUCTION MAY RESULT IN DISAPPROVAL OF THE PROPOSED FACILITY FOR FUTURE OPERATION AND MAINTENANCE BY THIS DEPARTMENT.

COMMENTS:

Reviewed by _____

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
- DRAINAGE SYSTEMS -
COST ESTIMATE FOR BOND PURPOSES P.C. NO.

DRAINAGE FACILITIES FOR PARCEL MAP OR TRACT NO.

LOCATION:

PREPARED BY DATE CHECKED BY DATE

(1)

ITEM	Pg.	QUANTITY	UNIT COST	FINAL COST
Reinforced Concrete Box				
Excavation	A-2			
Concrete	A-3			
Steel	A-3			
Open Channel				
Excavation	A-6			
Concrete	A-6			
Steel	A-7			
Reinforced Conc. Pipe (in place)	A-9 to A-10			
(Dia.)				
"				
"				
"				
"				
"				
"				
"				
Manholes	A-16 to A-20			
No. D1= D2=				
No.				
No.				
No.				
No.				

(1)

ITEM	Pg.	QUANTITY	UNIT COST	TOTAL COST
Junction Structures	A-31 to A-32			
J.S. No. D=				
J.S. No.				
J.S. No.				
J.S. No.				
J.S. No.				
Transition Structure	A-33			
T.S. No. Conc.(CY)				
T.S. No.				
T.S. No.				
T.S. No.				
Pipe Supports	A-36			
Subdrainage Systems	A-37			
" A.C.P.				
Manholes				
Gravel				
Drain Material				
Sand and Gravel Blanket				
Filter Material				
Fencing and Gates	A-38			
4 foot channel wall or headwall				
5 foot channel wall or headwall				
5 foot Right of way fence				
Rail and tension rod				
Rail assembly				
4 foot walk gate				
12 foot double drive gate				
16 foot double drive gate				
20 foot double drive gate				
Flap Gates	A-43			
"Dia.				
"Dia.				

ITEM	(1) Pg.	QUANTITY	UNIT COST	TOTAL COST
Protection Barriers				
Galvanized Steel			$75.00/S.F.	
Epoxy Coated Steel			$90.00/S.F.	
Concrete Collars	A-46			
" Dia. (Pipe size)				
" Dia. (Pipe size)				
Miscellaneous Items				
Redwood Headers	A-41			
Gunite Channel Lining	A-42			
" thick				
Concrete Backfill (C.Y.)	A-47			
Miscellaneous Reinforced Concrete			(2)	
Structures				
Concrete				
Steel				
Excavation or Fill				
A.C.	A-39			
Crushed Agg. Base (per inch thickness)			$0.11/S.F.	
Rip-Rap			$30/C.Y.	
Grouted Rip- Rap			$75/C.Y.	

Contingencies: Less than $50,000-15%
50,000 to 100,000-10%
More than 100,000-5%

SUBTOTAL _____

CONTINGENCY _____
Adjustment to actual costs at end of agreement period (2yrs X 6%/yr=12% _____

(A) IMPROVEMENT TOTAL _____
(B) INSPECTION _____

TOTAL (A + B) _____

* See page 4 of 4 for determination of inspection costs.

(A) IMPROVEMENT TOTAL	(B) INSPECTION
Less than $2,500	$ 400
$ 2,501 to 25,000	400 + 12% of (A)
25,000 to 40,000	3,100 + 8.5% of (A)
40,000 to 55,000	4,375 + 6.5% of (A)
40,100 to 75,000	5,350 + 4.0% of (A)
75,001 to 100,000	6,150 + 2.8% of (A)
100,001 to 250,000	6,850 + 1.6% of (A)
250,001 to 325,000	9,250 + 1% of (A)
Above 325,000	10,000 + .25% of (A)

(1) Refers to Page in Flood Control District's 1983 Cost Estimating Manual. Where items or unit prices not given in these sheets, use the values in the Cost Estimating Manual plus 15% for inflationary purposes.

(2) Variations in requirements will require cost estimate based on the construction plans and itemized materials list.

Federal Emergency Management Agency

Washington, D.C. 20472

850.6.1

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IA-RA-RS (102A)
Community: Los Angeles County, California
Map Panel Number: 065043 0613 B
Effective Date: JUL 30 1987

The Honorable Michael Antonovich
Chairman, Los Angeles County
Board of Supervisors
500 West Temple Street
Room 856
Los Angeles, California 90012

Dear Mr. Antonovich:

This is in response to a letter dated May 27, 1987, from Mr. T. A. Tidemanson, Director of Public Works, to the Federal Emergency Management Agency (FEMA). In this letter, Mr. Tidemanson requested that FEMA revise the effective Flood Insurance Rate Map (FIRM) for Los Angeles County, California. In support of this request, Mr. Tidemanson submitted the following data, all of which were prepared by Carl Chapman & Associates, Inc.: a letter dated May 12, 1987, from Mr. Carl E. Chapman, containing a general description of the changes; certified "as-built" construction drawings for the storm drain in Tract Nos. 41177 and 41178, Public Drain No. 1684; hydraulic calculations for a portion of the channel; and grading plans for Tract Nos. 41177 and 41178.

Based on our review of the submitted data with respect to the data used for the preparation of the effective FIRM for Los Angeles County, the FIRM has been revised to modify the flood boundaries of a flood having a one-percent chance of occurrence in any given year (base flood) along Las Virgenes Creek. This revision is based on channel improvements, including the construction of a concrete-lined channel that extends from Thousand Oaks Boulevard to the county boundary and contains the 100-year flood.

Revisions of the flood boundaries are shown on the enclosed annotated copy of FIRM Panel 065043 0613 B. This Letter of Map Revision hereby amends the currently effective FIRM Panel 065043 0613 B dated November 15, 1985.

Due to present funding constraints, FEMA must limit the number of map revisions processed. Consequently, we will not republish the FIRM for Los Angeles County to reflect this revision at this time. However, if the community's Flood Insurance Study should warrant a revision in the future, FEMA will also consider republishing the FIRM to reflect the aforementioned revision.

This modification has been made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and is in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

As required by the legislation, a community must adopt and enforce floodplain management measures to ensure continued eligibility to participate in the National Flood Insurance Program (NFIP). Therefore, your community must enforce these regulations using, at a minimum, the base flood elevations, zone designations, and floodways in the Special Flood Hazard Areas as shown on the FIRM and Flood Boundary and Floodway Map for your community, including the aforementioned flood boundary modifications.

Please be advised that NFIP Regulations, as cited in 44 CFR 60.3(b)(7), require that communities "assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained." This provision is incorporated into your community's existing floodplain management regulations. Consequently, the ultimate responsibility for maintenance of the channel modification rests with your community.

This response to your request is based on minimum floodplain management criteria established under the NFIP. Your community is responsible for approving all proposed floodplain developments, including this request, and for assuring that necessary permits required by Federal or state law have been received. State and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction, or may limit development in floodplain areas. If the State of California or Los Angeles County has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP requirements.

The community number and suffix code listed above will be used for all flood insurance policies and renewals issued for your community on and after the effective date listed above.

The revised flood boundaries are effective as of the date of this letter. However, a review of the flood boundaries and any requests for changes should be made within 30 days. Any request for reconsideration must be based on scientific or technical data.

If there are any further questions regarding the new flood boundaries, please contact the Chief, Natural and Technological Hazards Division, FEMA, in San Francisco, California, at (415) 923-7175, or Mr. Philip Myers of my staff in Washington, D.C., at (202) 646-2755.

Sincerely,

John L. Matticks
Chief, Risk Studies Division
Federal Insurance Administration

Enclosure — 1

cc: Mr. T. A. Tidemanson
Director of Public Works

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

LOS ANGELES COUNTY, CALIFORNIA
(UNINCORPORATED AREAS)

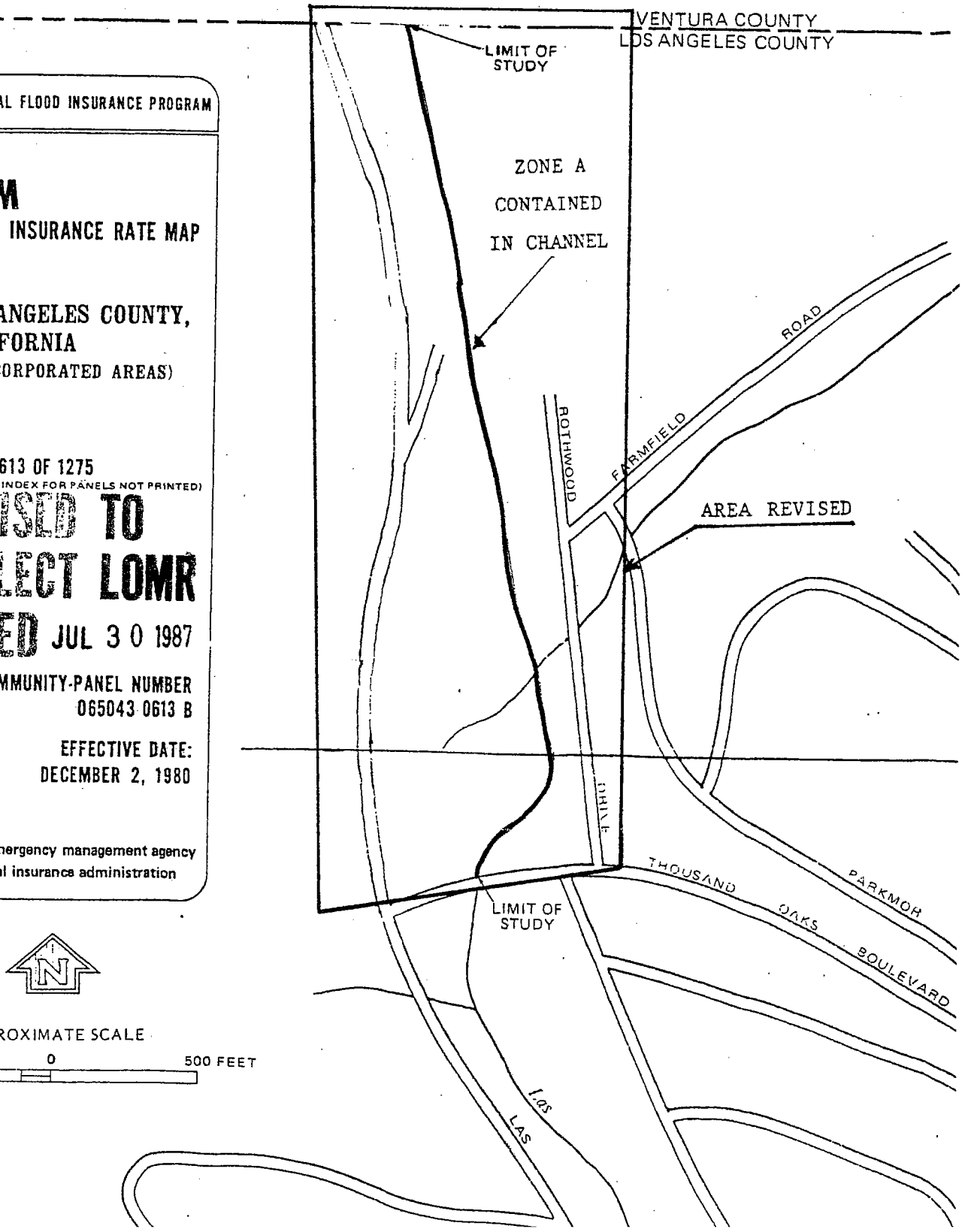
PANEL 613 OF 1275
(SEE MAP INDEX FOR PANELS NOT PRINTED)

REVISED TO REFLECT LOMR DATED JUL 3 0 1987

COMMUNITY-PANEL NUMBER
065043 0613 B

EFFECTIVE DATE:
DECEMBER 2, 1980

federal emergency management agency
federal insurance administration



"HOW TO OBTAIN A STORM DRAIN CONSTRUCTION PERMIT"

To obtain P.D. and M.T.D. permits, the following must be submitted to Permits and Subdivision Section of the Construction Division:

1. A check to cover the inspection fee amount. (Call Permits and Subdivision Section at (818) 458-3129 in advance to obtain exact amount of construction inspection fee which may include road excavation permit fee if a road excavation permit is required.)

   *Call the Building and Safety/Land Development Division at (818) 458-4919 to make sure the plans are signed and are delivered to the Permits and Subdivision Section before calling for amount of inspection fee.

2. A copy of OSHA and worker's compensation certificate (P.D.'s only). (If the worker's compensation number is on the computer list, permit will be issued without an actual copy, but a copy of OSHA must be presented at the counter before the permit is issued.)

   *OSHA and worker's compensation must be under the same contractor.

   Note: On Miscellaneous Transfer Drains (M.T.D.'s)

   For cities that the Department of Public Works issues road excavation permits, the fees will be paid at the Permits and Subdivision Section counter to obtain a road excavation permit.

3. Evidence of other agencies permits if required and indicated on the approval sheet.

APPLICATION FOR STORM DRAIN CONSTRUCTION INSPECTION - FORM 1

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
900 South Fremont Avenue
Alhambra, California 91803-1331

PRIVATE DRAIN NO. _____ PERMIT OSHA _____

Job Number _____ NUMBERS: Road _____

Flood _____

Other _____

_____ Telephone ( ) _____
Developer or Owner

Address _____ City _____ Zip _____

_____ Telephone ( ) _____
Storm Drain Contractor

Address _____ City _____ Zip _____

Storm Drain Valuation $_____ Deposit* for Inspection $_____

Supplemental Deposit* for Inspection _____

LDMA FEE _____

Check Number _____ Total Received $_____

Contractor Must Call _____ at _____
Head Inspector Regional Office

Telephone ( ) _____ at least 24 hours before starting any work.

(Call weekdays only-before 9:00 a.m.)

Signature of Applicant or Authorized Agent _____

For the Account of _____ _____
Address

Telephone ( ) _____ City _____ Zip _____

Check received by _____
Signature

*Further deposit will be required if inspection costs exceed above amount.

PRINT OR TYPE PRESS HARD

UARCO® Business Forms - Ro

26-0099 DPW. 10 / 89
76A641E

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

APPLICATION FOR EXCAVATION PERMIT

PERMIT NO. _____ 1

DATE _____

R.D. NO. _____

(PRINT NAME) _____ ACCT. NO. _____

hereby makes application for permit to excavate in the Public Highway at the following described locations, subject to the provisions required by the Highway Permit Ordinance (Division 1 of Title 16 Los Angeles County Code) as amended or the Municipal Code and city ordinance of the city for which this permit is issued, the attachments hereon specified, AND THE SPECIFIED REQUIREMENTS INDICATED ON THE REVERSE SIDE.

In consideration of the granting of this permit, it is agreed by the applicant that the County of Los Angeles and the city wherein the permit work is to be performed and any of their officers or employees thereof shall be saved harmless by the applicant from any liability or responsibility for any accident, loss or damage to persons or property, happening or occurring as the proximate result of any of the work undertaken under the terms of this application and the permit or permits which may be granted in response thereto, and that all of said liabilities are hereby assumed by the applicant. It is further agreed that if any part of this installation interferes with the future use of the highway by the general public, it must be removed or relocated, as designated by the Road Commissioner or Superintendent of Streets, at the expense of the permittee or his successor in interest. This permit is void if the permittee is not in compliance with Section 3800 of the labor code.

LOCATION _____ THOMAS GUIDE PAGE NO. _____

PURPOSE _____

_____

_____ UNDERGROUND SERVICE ALERT TICKET NO. _____

SPECIAL TRAFFIC REQUIREMENTS: ☐ INCLUDED WITH ATTACHMENTS ATTACHMENTS: ☐ 89 ☐ 340 ☐ 341 ☐ other _____

LENGTH OF PIPE, CONDUIT, OR CABLE _____ SIZE AND TYPE _____

LENGTH AND WIDTH OF EXCAVATION _____ TYPE OF SURFACE _____

Give Franchise Number or other right to occupy the highway for this purpose _____

Signed _____ Telephone No. _____

Mailing Address _____ City _____

	VALID NO.	DATE	TOTAL PAID	

VOID IF WORK NOT STARTED IN 60 DAYS AND CONTINUED TO COMPLETION

VALID WHEN MACHINE STAMPED AND UNDERGROUND SERVICE ALERT TICKET NO. ENTERED.

ISSUANCE FEE $ _____

SPECIAL DEPOSIT _____

TOTAL _____

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director
CECIL E. BUGH, Chief Deputy Director
MAS NAGAMI, Assistant Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: L-5

X
x
x

Gentlemen:

STORM DRAIN/DRAINAGE IMPROVEMENTS
WITH TRANSFER TO FLOOD CONTROL DISTRICT
PRIVATE DRAIN NO.
TRACT NO.

On behalf of the County of Los Angeles, we reduced the following surety bond by $000,000:

Bond Number
Original Amount - $
Surety -

If you have any questions, please call Mr. Luke Guggenheim of this Department at (818) 458-4953.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

CARL L. BLUM
Assistant Deputy Director
Land Development Division

LG:sa/

cc:

bc:

18-25

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director
CECIL E. BUGH, Chief Deputy Director
MAS NAGAMI, Assistant Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE REFER TO FILE: L-5

X
x
x

Gentlemen:

STORM DRAIN/DRAINAGE IMPROVEMENTS
NOT TRANSFERRED TO FLOOD CONTROL DISTRICT
PRIVATE DRAIN NO.
TRACT NO.

The construction of the drainage facilities guaranteed by the improvement security listed below, and constructed under the subject Private Drain, has been satisfactorily completed in compliance with the plans and specifications on file with this Department.

On behalf of the County of Los Angeles, we approved and accepted as completed the storm drain improvements this date and exonerated the following listed surety bond:

Bond Number
Amount - $
Surety -

If you have any questions, please call Mr. Luke Guggenheim of this Department at (818) 458-4953.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

CARL L. BLUM
Assistant Deputy Director
Land Development Division

LG:sa/

cc:

CHAPTER 19

DRAI

DRAINAGE BENEFIT ASSESSMENT AREAS (DBAA)

A drainage benefit assessment area (DBAA) is established in those areas where there is no source of funds to maintain surface and/or subsurface drainage facilities. This is usually in areas outside the boundaries of the Flood Control District (see Chapter 18). Usually the tentative map conditions will note that a DBAA will be required (See Chapter 11).

Whenever a DBAA is required as part of the tentative subdivision map requirements (See Chapter 11), Land Development Division shall process the plans as part of a Private Drain including the collection of bonds and agreements (see Chapter 12). The establishment of a DBAA should begin at the same time plans are submitted for the subdivision development.

I. Establishing a DBAA

In this era of limited financing, the State Legislature has given local agencies many methods for financing necessary infrastructure to serve increased populations due to urbanization of new lands. It is current State and County policy to require land developers to finance as part of the development costs, the capital cost of constructing necessary county operated improvements such as storm drainage systems, roads, sewerage systems, water distribution systems, libraries, parks, schools, etc. In addition these services requiring annual maintenance must be funded by those receiving the benefits. All subdivisions must be incorporated into a district that finances these services. Chapter 11 contains information on the Bridge and Major Thoroughfare Construction Districts and the collection of assessments for other special districts. This Chapter is devoted to providing maintenance funding for site drainage. For the purposes of this Chapter, site drainage means surface drainage due to rainfall and excess agricultural irrigation and subsurface drainage to maintain site stability. It does not include any form of waste discharge from within or outside a structure.

It is the responsibility of the local agency to establish a District to finance improvements. The County has chosen to require developers to finance as part of development costs the required drainage facilities and to use the Benefit Assessment Act of 1982 to finance annual maintenance expenses of their facilities. The summary of this Act is in Chapter 53 of this Manual. Those developments within the Boundaries of the Los Angeles County Flood Control District are covered under a voter approved benefit assessment Code provision. (See Chapter 55 of this Manual.) Those developments outside of the Flood Control District must either form a new district or be annexed to an existing District. Either way the property owners will be assessed annually through their property taxes the prorated benefit they receive from the services rendered by the County.

II. Processing the Establishment of New DBAA

Whenever as part of the conditions of subdivision approval a DBAA must be established, the following procedure is utilized:

A. Submittal Requirements

The following items must be submitted in a package to the Land Development Division Processing Center in order to start forming a drainage benefit assessment area (DBAA):

1. A deposit of $3000 (see Chapter 18 of this Manual regarding deposit administration).

2. Copies of both the Tentative and Final Parcel and/or Tract Maps within the DBAA.

3. Private Drain Plans (2 sets).

4. Operation and Maintenance Manual if the facilities or maintenance are of a nonstandard nature, such as, multi-use parks or other acceptable uses. Standard items not needed in this manual are design criteria described in this Manual and cleaning.

5. Estimated cost of annual maintenance services if the facilities and maintenance procedures are of a nonstandard nature.

6. An agreement to establish the DBAA (see Pages 19-9 and 19-10) (2 originally signed copies).

B. Processing of DBAA

Upon receipt of the above materials by the Land Development Processing Center, a copy of the Agreement and the receipt for the deposit is sent to Drainage and Grading Section. The Processing Center personnel must note on the receipt the Job Number and that this is for a DBAA so proper charging of costs can be made. The remainder of the material are sent to Funding Planning/Special Studies Section in the Planning Division. The Planning Division is responsible for the processing and coordinating of the DBAA.

Once the drainage facilities and the DBAA have been completed and accepted, a memorandum is prepared by the Bond Administration Subunit (Land Development Division), signed by the Division Engineer and sent to affected parties as described in Chapter 18 of this Manual.

C. Responsibilities of the County

To establish a DBAA, the following procedures are required to be done by the County:

1. Set up fiscal collections from the Auditor Controller.

2. Recommend yearly adjustments of collections to the Board of Supervisors.

3. Develop procedures for maintenance or modify those submitted by the applicant (developer).

4. Monitor the performance of the facilities to verify anticipated performance.

5. Develop a disbursal program.

6. Develop work contracting if required.

D. Division Assignments

The detailed Division assignments are as follows:

1. Building and Safety/Land Development and\or Materials Engineering Divisions

   a. Identify drainage needs on the tentative map conditions.

   b. Review construction plans.

   c. Send construction plans to the Flood Maintenance Division for review and annual maintenance estimates.

   d. Collect deposit for DBAA formation.

   e. Send material for DBAA formation to the Planning Division.

   f. Approve construction plans.

   g. Have construction inspection performed by Construction Division.

   h. Notify the Planning Division of completion of construction when Board of Supervisors' letter is prepared.

i. Recommend acceptance of completed construction by letter to Board of Supervisors after maintenance tax is collected.

j. Transfer maintenance "package" to the Planning Division.

Any questions regarding the above should be directed to the Land Development Division at (818) 458-4921 or the Materials Engineering Division at (818) 458-4925.

2. Planning Division

a. Accept DBAA formation material

1/ Job number access with a deposit of $3,000.00±
2/ Subdivision map
3/ Copy of private drain plans
4/ Benefitted area boundary
5/ Maintenance cost estimate
6/ Operation and maintenance manual (as required)

b. Prepare report, Environmental Impact Report (EIR), Resolution Instituting Proceedings, and Notice of Hearing and Filing.

c. File necessary documents including Benefit Assessment Area (BAA) Ordinance with Board of Supervisors.

d. Post Notice of Hearing and Filing of ordinance.

e. Submit property owner notification affidavits.

f. Prepare resolution determining assessments and submittal to voters.

g. File resolution determining assessment with Board.

h. Notify the Land Development Division when DBAA is formed.

i. Accept transfer package from the Land Development Division including:

1/ Copy of BAA Ordinance
2/ DBAA document
3/ Subdivision map and assessment roll
4/ Construction plans
5/ Operation and maintenance manuals or specifications (as required)

j. Maintenance and Repair Records plus costs for each area.

k. Notices to Business and Finance Division.

l. Assign work and disbursements to Flood Maintenance Division.

m. Budgets each August for Board of Supervisors' approval.

Any questions regarding the above Planning Division Functions, should be directed to (818) 458-4336

3. Fiscal Division

a. Establish record keeping procedure for collections and disbursal of funds.

4. Flood Maintenance Division

   a. Receive work assignment from the Planning Division including:

      1/ Copy of BAA Ordinance
      2/ DBAA document
      3/ Subdivision map
      4/ Construction plans
      5/ Operation and maintenance manual or specifications (as required)

   b. Create work order.

   c. Record keeping, function, time and cost.

   d. Service contract development.

   e. August budget estimate to the Planning Division (each year).

   Any questions regarding the above Flood Maintenance Division functions should be directed to Telephone (818) 896-0594.

5. Construction Division

   a. Provide ongoing inspection during construction.

   b. Provide final inspection prior to acceptance of construction.

   This is performed in accordance with the procedures in Chapter 18 of this Manual.

E. Resubmittals

Additional information must be submitted in the same manner that the original information was submitted. (See Item A on Page 19-1. It will be of great assistance in processing if the name of reviewer is noted on submittal card.

F. Subdivision Map Recordation

Before the subdivision map can be recorded as described in Chapter 12, the DBAA must be established which includes the completion of the Division Assignments. Should the Developer request subdivision recordation prior to the establishment of the DBAA, the Developer must have in the agreement with the County that no lots will be sold until the DBAA is established (see Agreement on Pages 19-9 and 19-10). Page 19-11 contains instructions for preparing agreements.

III. Procedures For Levying Annual Maintenance Assessments For DBAA's

The following procedure is used to establish the annual assessments for DBAA's under the jurisdiction of the Department of Public Works.

A. In March or April of each year, the Planning Division compiles a list of those DBAA's which are being maintained by the County. The Land Development Division is contacted to determine if any additional DBAAs are close to being accepted for maintenance.

B. The Planning Division obtains the current fund balance for each DBAA from the Fiscal Division and estimate what the year end balance will be based on year to date expenditures. The Flood Maintenance Division is contacted to determine if any unusual expenditures are likely before the end of the Fiscal Year.

C. Planning Division obtains budget request for the following the Fiscal Year from the Administrative Services Division. Subtract the projected fund balance for each DBAA. This step is necessary since Section 54711 of the Government Code prohibits levying assessments for more than the amount required for one fiscal year, i.e., a reserve fund cannot be established.

D. The Planning Division obtains the latest assessors maps for the land within the DBAA to determine if there have been additional land subdivisions since assessments were previously levied. Often DBAAs are established before recordation of the tract maps and the original assessments are based upon the undivided land, after taking into account the proposed subdivision.

E. The Planning Division computes the annual assessments for each parcel using the same method used to calculate the assessments when the DBAA was originally formed. If additional subdivisions have occurred, the method will have to be modified to correctly reflect the benefit received.

F. The Planning Division prepares a resolution ordering the assessment as well as a report describing the services to be provided and a cover Board letter describing the submittal.

G. The Planning Division files the Board letter and accompanying documents. No hearing is required to set the annual assessments and no one is required to testify before the Board of Supervisors (Government Code, Section 54717(b)). However, the Board must approve the assessments prior to August 1 in order to provide time for them to be included on the November property tax bills.

The Planning Division prepares a letter to the Auditor Controller requesting the assessments be included on the tax bills. A list of the parcels and the accompanying assessments should be included. This letter must be sent prior to the Auditor Controller's deadline (usually early August) in order for the assessments to be collected on the tax bills.

IV. Finance DBAAs Through Sale of Bonds

It is County Board of Supervisors policy to finance most DBAAs as part of the development. However, if any portion of a DBAA is considered of regional significance, the developer may request the County to arrange financing of that portion by establishing a community facilities district under the Mello Roos Act. See Chapter 52 of this Manual for a summary of this Act which is part of the Government Code.

The Mello Roos Community Facilities Act allows the legislative body to initiate proceedings to establish a Community Facilities District. This District would have the power to issue bonds and then assess the property owners based on direct benefit the annual cost to retire the bonds.

A. General Requirements

If the Department of Public Works makes a determination that Mello Roos Community Facilities Act can be used to finance some of the DBAA capital improvements, the following procedures are utilized:

1. A petition signed by at least 10 percent of the registered voters or the owners of at least 10 percent of the land to be included in the proposed Community Facilities District (CFD) is submitted to the Board of Supervisors (Board) which is the legislative Body the Board is then required to adopt a Resolution of Intention (ROI) required by Section 53321 of the Government Code, direct the appropriate public official to prepare a report describing the facilities and services along with an estimate of costs, and to hold a hearing to consider the matter. At the close of the hearing, the Board may elect to proceed with formation or to abandon the proceedings. The petitioners may be required to pay the costs of the proceedings.

2. Two or more members of the Board may submit a written request, provided the costs of the proceedings are paid. Again, the Board body may abandon proceedings after a report is prepared and a hearing conducted.

At the conclusion of the hearing, provided there is not a 50 percent protest, the Board may decide to proceed with formation of the CFD. If so, an election must be held. A 2/3 vote by the registered voters is required in order to impose the special tax to pay for the facilities or services. If there are more than 12 property owners in the proposed district, each registered voter has one vote. If there are less than 12 registered voters, each property owner gets one vote per acre or portion thereof.

The County Treasure Tax Collector (TTC) is the lead agency for formation of developer's requested CFD's in Los Angeles County since these districts usually involve sale of bonds. The Department of Public Works (DPW), however, decides which infrastructure and development fees should be included in the financing.

Typically, CFD's associated with new developments "acquire" the facilities after they have been constructed by the developer. Hence, the remainder of the development process is handled in the usual fashion. Payments for the facilities are normally approved by the Construction Division. Although not required by law, a Funding and Acquisitions Agreement is prepared and executed with the developer during the CFD formation process to identify the facilities to be acquired and the terms and conditions under which payments will be made.

Funds to pay for the facilities are generated through the sale of bonds. Bonds are usually sold under the Mello Roos Community Facilities Act, but may be sold under the 1911 Act or the 1915 Act. (See Chapters 53 and 59 of this Manual.)

B. Procedures For Formation Of CFD Within Los Angeles County

1. After receiving an inquiry, the TTC provides the applicant with instructions and guidelines for forming CFD's.

2. A pre-application meeting is held with the applicant, the TTC, the DPW, and occasionally County Counsel. Items discussed are the County guidelines for CFD's, the facilities to be included, the approximate value of the facilities, and any other issues which may arise. Of these issues, the DPW is primarily concerned with the facilities to be included.

3. The applicant submits an application to the TTC on a standard application form.

4. The County, through the TTC, executes a Deposit-Reimbursement Agreement with the applicant. This agreement requires the applicant to reimburse the County for all costs associated with the formation of the district, whether or not the district is successfully formed. It should be noted the applicant could elect to file a petition with the Clerk of the Board which would force the County to proceed with a hearing within the time limits required by Article 2 of the Act. (See Chapter 53 of this Manual.) However, such an action would not give the County sufficient time to determine the feasibility of the proposed district and could result on the Board deciding not to proceed with formation.

5. The TTC hires the necessary consultants, including an appraiser, special tax consultant, bond counsel, absorption consultant, and underwriter with the Board's consent.

6. Early in the process, the DPW should conceptually review the facilities proposed to be included and prepare a memorandum to Administration to obtain conceptual sign-off. The exact facilities to be included to simply insure the types of facilities proposed are acceptable to the DPW Administration prior to negotiating the Funding and Acquisition Agreement.

7. The applicant prepares and submits for review, a detailed facilities plan which includes the types of facilities to be acquired or financed, services to be financed, the estimated cost of the facilities, the CFD boundaries, the special tax rate and the method by which it is determined (the rate and method of apportionment).

8. The DPW begins preparation of the Funding and Acquisition Agreement. This agreement, although not required by law, provides the framework by which the facilities will be acquired from the developer. The DPW should also begin preparation of the CFD report required by Section 53321.5 of the Government Code.

9. After consulting with the DPW, the TTC arranges for preparation of an appraisal by the appraiser hired for this purpose. The appraisal is reviewed by Mapping and Property Management Division to ensure the value-to-lien ratio is at least 3:1.

10. The market absorption consultant prepares a study to determine if there will be a market for the completed development at the prices quoted by the developer.

11. The TTC (bond counsel) prepares a draft of the ROI for review by the project team.

12. The project team reviews all of the documents required for formation of the CFD. Because of the complexity of these documents, several cycles are usually required in order to finalize the documents.

13. The TTC files the ROI and the Report with the Board. A copy of the Report is also provided to each Supervisor.

14. The Board adopts the ROI. Following adoption of the ROI, the text of the ROI, the time and place of hearing, a statement that all interested persons or taxpayers may testify at the hearing, a description of the effect of protests, the extent of the proposed CFD, the facilities or services to be furnished, a description of the special tax, and a description of the voting procedure must be published at least seven days prior to the hearing. (See Section 53322 of the Government Code.)

15. Although optional, the Clerk of the Board may mail notices of the hearing to the registered voters and landowners in the proposed CFD. (See Section 53322.4 of the Government Code.) The notice must be mailed at least 15 days prior to the hearing and must contain the same information as the notice published under Step 14.

16. The TTC prepares the Resolution of Formation (ROF) and files it with the Clerk of the Board prior to the hearing. The ROF provides for formation of the CFD, the necessity to incur bonded indebtedness, an appropriations limit and validation proceedings, and submittal to the voters.

17. The DPW files the Funding and Acquisition (F&A) Agreement with the Board in time for it to be considered at the hearing.

18. The Board holds the public hearing. The DPW and the TTC may testify. The hearing may be continued for up to six months (See Section 53325 of the Government Code.)

19. The Clerk of the Board publishes notice of the special election. The Registrar-Recorder conducts the election and certifies the results.

20. The Board declares the election results official.

21. Bond Counsel validates the election results in Superior Court within 30 days after voter approval.

22. The TTC files the Resolution Authorizing the Issuance and Sale of Bonds and Special Tax Ordinance recommending that the Board determine that 2/3 of the registered voters are in favor. Approval of these documents authorize that sale of bonds, collection of taxes, payment to bond holders, and placement of the special tax on the tax roll.

23. The TTC issues the bonds.

24. Planning Division transfers responsibility for managing the DPW's role in the CFD to Construction Division. Construction Division should be furnished with copies of the ROI, the ROF, the CFD

Report, and the Funding and Acquisition Agreement. Meetings should be held between the two Divisions to ensure a smooth transfer of responsibility.

COUNTY OF LOS ANGELES)
_____)
_____)
_____)
)
When Recorded, Mail to:)
) RECORDED_____
Board of Supervisors)
500 West Temple Street) DOCUMENT _____
Los Angeles, California 90012)

AGREEMENT

THIS AGREEMENT is between the COUNTY OF LOS ANGELES ("County") and _____ _____("Owner"), a general partnership with its principal place of business at _____.

RECITALS:

A. _____, is the Owner of all that certain real property within Tentative Tract No. _____ ("Property") in the unincorporated territory of the County of Los Angeles.

B. The Property is subject to flood hazard, and as a condition of approval of the tentative tract, Owner is required to provide drainage facilities in order to remove the flood hazard to the satisfaction of the Director of Public Works.

C. As a condition of approval of the tentative tract map, the County requires that a maintenance district be formed to provide maintenance of the drainage facilities since the Property is located outside the Flood Control District Boundary.

D. The County has approved the drainage plans and has in its possession a bond for the faithful performance of the construction of the drainage facilities.

IT IS THEREFORE AGREED:

1. For purposes of this agreement, "drainage facilities" means the percolation basin, storm drains, and appurtenant structures located within easements dedicated to the County of Los Angeles for drainage purposes.

2. Owner will not sell any lots in Tract No. _____ until a maintenance district has been established in accordance with California Government Code Section 54071, et seq. Said maintenance district will provide for the maintenance of all those drainage facilities to be constructed by the Owner as a condition to subdivide the Property.

3. Sale of a lot shall mean the transfer of title to a lot from Owner to a third party.

4. Owner shall properly maintain all the drainage facilities until all improvements have been completed to the satisfaction of the County, the drainage facilities have been dedicated to and accepted by the County, and the maintenance district is formed to provide maintenance of said facilities. Owner also agrees to deposit with the County any funds that may be necessary to provide for maintenance should the County accept transfer of the drainage facilities prior to collection of the maintenance tax.

5. The County agrees to take all action necessary to create the maintenance district and shall process the necessary papers within a reasonable period of time to the Board of Supervisors for approval.

6. This agreement shall be binding upon any and all parties having or acquiring any rights, title or interest in the property.

DATE _____

COUNTY OF LOS ANGELES

By _____
Chairman, Board of Supervisors

ATTEST:

LARRY J. MONTEILH, Executive Officer-
Clerk of the Board of Supervisors

By _____

By _____
(Owner or Authorized Agent)
*(A Notary Verification will be required for the signature.)

APPROVED AS TO FORM:

DE WITT W. CLINTON, County Counsel

By _____
Deputy

AGREEMENT(S) PREPARATION INSTRUCTION

1. Agreement must have one-half inch margin at top, bottom, and two inch margin at the top. However The first page is required to have a two inch margin at the top.

2. Two original signed agreements are required, which must be legible and reproducible. Signatures and jurats on both agreements must be originals in accordance with the forms in Chapter 29 of this Manual. (NO PHOTOCOPIES ARE PERMITTED.)

3. If the signature(s) are for a corporation, the corporate name must appear above the signature(s). Both the President or Vice-President and corporate secretary are required to sign. (Title should be shown under signature(s)).

   EXAMPLE: _____
   (President)

4. Appropriate jurat(s) (i.e., corporate, individual, trust) must be attached to each original. (See Chapter 29 of this Manual)

5. If signing for a trust, submit proof that individual signing the document is authorized to sign for trust.

6. A recording fee of $5 for the first page and $2 for each additional page should be submitted with agreement.

7. For further information please contact the Drainage and Grading Section of Land Development Division at (818) 458-4921 or Materials Engineering Division at (818) 458-4925.

DRAFT

CHAPTER 20

MINOR TRANSFER FACILITIES (MTF)AND MISCELLANEOUS TRANSFER DRAIN (MTD) ACCEPTANCE

Drainage facilities proposed for County operation and maintenance that will be constructed in a City by a subdivider or the City when the City does not contract out its City Engineer functions to the County are known as a Minor Transfer Facility (MTF) and a Miscellaneous Transfer Drain (MTD). The differences between a MTF and a MTD are discussed below. The standards and procedures for transferring a drain is similar to that of a Private Drain (PD). (See Chapter 18 of this Manual.) However, the City signs the improvement plans and is the lead agency relative to bonding and inspection.

The following are the basic differences in procedures between a (PD) and either a (MTF) or (MTD)

I. Minor Transfer Facilities (MTF)

A. Definition of a MTF

In order to qualify as a MTF, the facility must meet all of the following:

1. The pipe has a diameter less than thirty-six (36) inches.

2. The facility has a maximum possible length of less than one thousand (1000) feet.

3. The Agency has shown to the satisfaction of the Department that the length of the facility cannot be extended.

4. The entire facility is completely within a publicly dedicated street.

5. The facility is not part of a subdivision being reviewed by Land Development Division.

B. Processing a MTF

The plans of a MTF are approved by the Permits and Subdivision Section of Construction Division, telephone (818) 458-3129. That Section issues any identifying numbers and issues any construction permits.

II. Miscellaneous Transfer Drains (MTD)

A MTD is a drainage facility to be transferred from a Public Agency to the Flood Control District or the Department that does not meet the requirements of a MTF. The following is a description of the processing of a MTD:

A. Issuance of Miscellaneous Transfer Drain Numbers

Miscellaneous Transfer Drain Numbers are issued by Land Development Division in the same manner as private drain number described in Chapter 18 of this Manual. To distinguish them from private drains, the number is proceeded with "MTD" instead of a "PD".

B. Collection of Fees and Deposits

The procedures for levying charges for checking a transfer drain are the same as for a private drain.

The actual amount of the charges will vary. However, the Department will require a minimum deposit of $1,000. from the local agency in the form of a service request. If the local agency has done a thorough job reviewing the plans before approving them, the amount of Department review and charges against the deposit will be minimal. The proper procedure is for fees and deposits for the development are paid to the local agency. The local agency is to coordinate

work requests and payments with the City Service Representative in accordance with the procedures in Item B.2 of Chapter 18.

However, most older cities (i.e., West Covina, Glendale, etc.) prefer to have the developer deal directly with the Department. If a developer has a set of plans approved by the City along with a letter requesting transfer of the Drain to the Flood Control District, the Department can assume that it has the authority to perform plan check services and to receive the plan check deposit directly from the developer. That deposit is paid at the Land Development Processing Center.

If an applicant appears without the city approved plans and a letter requesting transfer, the applicant should be instructed to obtain specific instructions from the City regarding the processing of the Drain. A copy of these instructions should be distributed to the affected Department personnel.

It is Department policy not to charge a plan checking fee for Miscellaneous transfer drains that alleviate unmet drainage needs and are funded from local agency operating funds or government grants. However, there will be plan check charges for miscellaneous transfer drains that are a part of a new subdivision or a community redevelopment agency.

C. Miscellaneous Transfer Drain Plan and Document Submittals

Besides the usual materials that must be submitted for a private drain, a transmittal letter must be submitted from the local agency requesting review of the drain for transfer to the County.

D. Miscellaneous Transfer Drain Plan and Documents Review

The plan and document review proceeds in the same manner as for a private drain plan and document review.

Once the plan check is completed, one of the following letters are sent to the applicant. If the plans are disapproved, the comments are presented on a pink colored form. If the plans are approved, they are presented on a green colored form.

E. Miscellaneous Transfer Drain Construction and Inspection

Miscellaneous Transfer Drains are constructed under the control of the local agency. After the plans have been approved, the Permit and Subdivision Section of the Construction Division is responsible for issuing the necessary inspection and/or connection permit and verifying that the drainage facility has been constructed in accordance with the approved plans. They coordinate their work with the local agency inspectors.

F. Miscellaneous Transfer Drain Transfer to Department Control

Upon the satisfactory completion of the drainage facility and clearance issued by the Permit and Utilities Section of Construction Division, the transfer process can begin. **The City must then submit a letter requesting a transfer along with a resolution by the City Council approving the transfer.** In addition, the City must submit quitclaim/easement deeds for necessary right-of-way. The documents are reviewed by the Drainage and Grading Section and if in order, a board letter is sent to the Board of Supervisors requesting approval of the transfer of the facility to the County. The quitclaim/easement deed(s) are sent to the County Recorder for recordation. The approval by the Board of Supervisors completes the process. At this time, the city is notified by letter of the acceptance by the Board of Supervisors. Attached to this letter are copies of the adopted Board letter and recorded quitclaim/easement deed(s).

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION

Telephone (818) 458-4921

TO: _____
_____
_____

DATE _____

FILE NO. 2-15.40

ATTN: _____

REVIEW OF PROPOSED DRAINAGE IMPROVEMENTS
"_____ CHECK" ( )

M.T.D. NO _____
TR/PM NO. _____
TRANSMITTAL DATE _____
THOMAS GUIDE PAGE _____

THE PLANS ARE DISAPPROVED

We have reviewed the plans for the proposed drainage improvements in the City of _____. Make corrections as shown on the returned set of plans and as noted below. Resubmit two (2) revised sets of plans for further consideration. Additional changes may be required as determined by further review.

After the plans are corrected and approved, it will be necessary to obtain a connection and/or inspection permit for the proposed drainage improvements prior to the commencement of construction.

[ ] Prior to further review of the proposed plans an additional plan checking fee of $ _____ must be submitted under account number L _____.

[ ] Transfer of the drainage improvements is subject to the Federal Emergency Management Agency (FEMA) approved amendments to the Flood Insurance Rate Maps (FIRM). Contact the Drainage Planning Section of the Planning Division at (818) 458-4311 for requirements.

[ ] U.S Army Corps of Engineers 404 Permit and State Fish and Game Permit may be required.

[ ] Caltrans Approval of plans are required.

[ ] Corp of Engineers Approval of plans are required.

COMMENTS:

Reviewed by: _____

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
DRAINAGE AND GRADING SECTION

Telephone (818) 458-4921

TO: _____

_____

_____

DATE _____

FILE NO. 2-15.40

ATTN: _____

M.T.D. NO. _____
TR/PM NO. _____
TRANSMITTAL DATE _____
REVISED PLANS DATED _____
THOMAS GUIDE PAGE _____

THE PLANS ARE CONDITIONALLY APPROVED

Subject to the availability of funding and the requirements below, the proposed drainage improvements for M.T.D. _____ will be recommended for future County operation and maintenance, if construction commences within two years.

[ ] Make corrections as shown on the attached plans as noted in comments

[ ] Submit the original tracings to the City of _____ for signature.

[ ] File _____ sets of the approved plans to the Drainage and Grading Section.

[ ] Contact the Permits and Subdivision Section of Construction Division at (818) 458-3129 to obtain a connection and/or inspection permit(s) for the proposed drainage improvements and to determine if there are restrictions on constructing these improvements during the period of October 15 through April 15.

[ ] Transfer of the Drainage improvements is subject to the Federal Emergency Management Agency (FEMA). Contact the Drainage Planning Section of the Planning Division at (818) 458-4311 for requirements.

[ ] U.S Army Corps of Engineers 404 Permit and State Fish and Game Permit may be required.

[ ] Caltrans Approval of plans are required.

[ ] Corp of Engineers Approval of plans are required.

FAILURE TO OBTAIN THE PERMIT(S) PRIOR TO CONSTRUCTION MAY RESULT IN DISAPPROVAL OF THE PROPOSED FACILITY FOR FUTURE OPERATION AND MAINTENANCE BY THIS DEPARTMENT.

COMMENTS:

Reviewed by _____

CHAPTER 21

ROAD PLAN CHECK

DRAFT

Roads are required to provide access to all parcels of land. Therefore, road plans are required for most tract and many parcel maps, and permits. These plans must be prepared by the developers in accordance with the minimum requirements described in Chapter 44 and approved by this Department. The process of having a road plan approved for tract and parcel maps is described below. Plans for permits for street modifications within existing road right-of-way or under the R-3 Building Permit Requirements are reviewed and approved by Design Division without involvement of Land Development Division.

A. Bench Mark Data

All road surveys and elevations must be tied to a publicly referenced bench mark. To obtain this data follow the instructions in Item A.3. of Chapter 18 of this Manual.

B. Collection of Fees

The procedure for collection fees for road plan checking with the exception of the Street Lighting Design is described on Page 21-7. This document contains the necessary information for the developer to determine the necessary plan check fee to be submitted with his plan.

If street lighting is required, the design must be submitted to the Traffic and Lighting Division for fee determination. The fee may be paid to Traffic and Lighting Division or to Building and Safety/Land Development Division personnel.

C. Submittal of Plans

All road plans contain four parts, Road Design, Street Lighting Design, Traffic Geometric (signs, stripping and signals) Design and Landscaping Design.

All designs except street lighting and traffic signals are submitted to the Land Development Processing Center Public Counter. The Submittals must include all the items shown on Page 21-8. In addition to the submittal requirements, the application must submit a check for the plan checking fees. Once the documents have been received and found complete and all fees paid, the applicant must complete postcard form A (see instructions on Pages 12-10 and 12-11, Chapter 12 of this Manual). Then all documents are sent to the Road Plan Check Subunit of the Road, Sewer and Water Section for review and approval.

All designs for street lighting are submitted to the Traffic and Lighting Division. A proof of fee payment must be obtained.

All required traffic signal designs are prepared by the Traffic and Lighting Division. The applicant must submit the requirements to the Traffic and Lighting Division and establish a deposit amount to reimburse the Department for its expenses.

When required, landscape design plans are submitted in accordance with Item D.6. Sets of plans containing street trees are submitted in accordance with Section D.7.

If the project is in a contract City, the procedure described in Chapter 14 of this Manual must be followed.

D. Road Plan Review

If the road plans contain the following design requirements as described in Chapter 44 of this Manual, each design is processed as follows:

1. Road Design

The personnel in the Road Plan Check Subunit are responsible for approving the road design in accordance with the "Street Plan Check Correction List" on Pages 21-9 through 21-12. They must make a determination that the plans will meet County minimum standards as presented in Chapter 44 of this Manual.

This Subunit is also responsible for verification of the Bench Mark Data that is obtained by the applicant from the Survey Division. (See the Submittal list on Page 21-8.) All development plans associated with these road plans must use the same bench mark data.

2. Street Lighting Design

The applicant must submit the street lighting design to the Traffic and Lighting Division as described in Item C. A copy of the approved design is returned to the developer. The developer is required to contract with the power company for the installation of the lighting. The lighting must be in operation and energy fees paid to cover costs until the lights are taken into the local street lighting district before acceptance of the street construction.

3. Traffic Geometric Design

All submitted traffic sign and stripping designs received by the Road Plan Check Subunit are sent to the Traffic and Lighting Division for their review and approval. It is County policy to install all traffic signs and bill the developer. The developer does have the option to install street name signs. However, if the signs do not meet County minimum standards, they will be replaced by the Department and the developer billed for the work.

It is County policy to install all stripping in existing streets such as widened streets and exterior streets. It is County policy to have the developer install stripping in all internal streets. The County has no specific policy regarding the installation of traffic signals. If the Traffic and Lighting Division feels that current traffic warrants a traffic signal during tract development, they will permit the developer to install the traffic signal. If not, they will collect from the developer sufficient funds to pay for later installation. For additional information regarding the above items, contact that Division at (818) 458-5904.

All approved plans containing work to be constructed by Department forces are sent to the Technical Services Section of Operational Services Division. All approved plans containing work to be performed by the developer are sent to Construction Division for inclusion in the road construction package.

4. Drainage Structure Design

If drainage structures are required, steps must be taken to insure that these structures are properly reviewed by County personnel and that they will be maintained. Most drainage improvements with a subdivision are part of the drainage devices on the grading plan or a private drain which is reviewed by the Drainage and Grading Section. (See Chapters 14 and 18 of this Manual.) Plans for deeded streets, which can be roads within or outside a subdivision, can show construction of road culverts as part of the plans. Where private drain standards as described in Chapter 18 are to be used, the Drainage and Grading Section will provide technical review of the facilities. Where the proposed drainage for the road affects building sites, a private drain may be required. In that case the developer should be instructed to follow the procedures for establishing a private drain described in Chapter 18 of this Manual.

5. Grading Design

Grading associated with deeded street plans must be shown and is reviewed by the Road Plan Check Subunit of the Road, Sewer and Water Section. When the grading is associated with lots or parcels, a grading plan is necessary as described in Chapter 14 of this Manual.

If there are slope easements, the road plans must be approved by the Drainage and Grading Section. The Materials Engineering Division may be requested to approve the stability of the slopes if structures may be affected.

6. Landscaping Design

Whenever a developer desires to have landscaping other than trees in a center median of a street and/or landscaping in the parkway of a master plan highway, landscaping plans are required and a landscape maintenance district must be established to maintain both plants and trees. The procedures are as follows:

a. Department of Parks and Recreation

Two sets of plans are submitted to the Special Districts Division, Department of Parks and Recreation, 31320 Castaic Road, Castaic, Calif. 91384. Telephone (805) 257-2295. These plans are reviewed as being in conformance with Chapter 70 of Title 26 of the County Code (Building Code) and a maintenance assessment district is established. (See Chapter 30 of this Manual.) The property owners near the landscaped street are assessed annually the maintenance costs. The Department in turn contracts out the maintenance.

Once the District is formed, a letter is sent to the Board of Supervisors advising them of the formation of the Assessment District. A copy is also sent to the Road Plan Check Subunit. The Road Plans cannot be approved until there is proof that a maintenance district has been established.

b. Department of Public Works

Four sets of Landscaping Plans are Deposited with the Land Development Processing Center. One set is sent to the Traffic and Lighting Division, one set is send to the Road Maintenance Division, one set to the Design Division and one set is retained in the Road File.

The Traffic and Lighting Division reviews the proposed landscaping and sets conditions of design and maintenance designed to prevent interference with traffic line of sight. The Design Division reviews the landscaping for conformance with adjacent sections of roads. The Maintenance Division reviews the plans for general suitability. Approval and conditions of approval of the Landscaping plans is sent to the Road Plan Check Subunit in a letter. The Department of Parks and Recreation are notified of any conditions of approval that must be part of the maintenance agreement.

The Road Plans cannot be approved until the above organizations approve the plans.

7. Street Trees

When required, street tree requirements can be a part of the road plans. One set of the applicable plans are submitted to the Road Maintenance Division for review and approval of the tree type and layout.

Therefore, it is imperative that the road, storm drain, sewer, water and grading plans be coordinated by the developer and that there is adequate cross-referencing so that errors and omissions are avoided. As part of this coordination, it must be verified that the bench marks used for road, storm drain, sewer plans and grading plans are the same. The roads, storm drain and grading plans must be processed in conjunction with the drainage concept and the hydrology study. The reviewers of each of these plans shall coordinate their reviews and comments so that there will be consistency in all of the comments establishing project approval conditions.

Because certain information is required for road design, the following constraints are placed on the road plan check processing:

1. The hydrology study must be approved before the road plan check can start.

2. The road plans will not be approved until

   a. The grading plans have been approved.

   b. The storm drain plans have been essentially approved.

Once the plan check is complete, the "Street Improvement Plan Correction List" form is completed and sent along with a set of check prints marked to show the necessary corrections to the applicant.

Once the road plans have met County minimum standards, grading plans approved, and the necessary, construction and drainage acceptance letters processed, the road plans can be approved by the plan checker by signing the tracings as the reviewer. (See Chapter 44 of this Manual.) The Section Head of the Road Section, the Division Head of Land Development Division and the Director Deputy then approve the road plans with their signatures. At this time, the developer is responsible for having a bonded blue print company pick up the tracings and initially make 3 copies of the plans for the Department. Before issuance of a road construction permit, the Construction Division will require 3 copies then the returned tracings are assigned a microfilm drawing number. The street configuration with this number is placed on the wall sheets by the Permit and Mapping Subunit.

The returned blue prints are distributed as follows: one to the Road File, and two to the Road Maintenance Division. The developer is responsible for obtaining his/her own copies.

E. Resubmittals

Additional information and revised plans must be submitted in the same manner that the original information was submitted. (See Item C on Page 21-1.) It will be of great assistance in the processing if the name of reviewer is noted on submitted post card. It is very important that work being reviewed by a private consultant be noted on the post card and that the counter personnel are advised. For further information, contact the program coordinator at (818) 458-4930.

F. Street Plan Revisions

Should the developer desire to make a revision to the approved street plans prior to acceptance of the road by the County, the following procedure must be followed:

1. The developer submits a print of the plans to the Processing Center showing the proposed revisions in red. At the time of submittal, a post card must be completed as described previously in this Chapter.

2. If the concept of the proposed revision is approved by the Road Plan Check Subunit, the original tracing may be released to the engineer by the Road Plan Check Subunit completing and issuing a card. (See Page 21-13.) The developer or engineer must take this card to the Map Room on the northerly end of the ground floor at 900 South Fremont, Alhambra, and check out the tracing and make the revisions. Once completed, the revised tracings must be submitted for approval through the Processing Center to the Road Unit along with a fee of $150 per sheet. If the proposed revisions are not approved, the developer must complete the project in accordance with the approved plans, or make revisions that are satisfactory to the County.

3. Once the tracings have been revised and the revisions approved by the County, the tracings are processed and new blue prints plus one for the Road Plan Room obtained in the same manner as presented in the last two paragraphs of Item D.

G. Road Clearance

The road clearance process can begin once the verification deposit has been paid and the final subdivision map has been submitted. The procedures described in Chapter 12 of this Manual are followed. Road clearance consists of verifying the following:

1. The road plans including all special designs must be approved (see Item D).

2. The road construction must be completed and accepted or a bond posted (see the procedure below for posting a bond).

3. Letters from all affected utility companies agreeing to the proposed development including relocations within road right-of-way to be dedicated.

4. If there is a Cable Television Franchise in the area, a Cable TV Agreement must be submitted. (See Chapter 44 of this Manual.)

5. All conditions for tentative map approval have been met such as road geometry, drainage, tree planting, traffic signals, signs, street striping, etc. (See Chapter 44 of this Manual.)

6. All required traffic studies have been completed and the study conclusions have been met.

7. All benefit district assessments have been paid. (See Chapter 11 of this Manual.)

If a bond is required as noted above, the cost estimates for bonding, for road improvements and trees must be submitted at this time. (See Pages 21-14 through 21-17 for the Road Bond Estimate Form and Page 21-18 for the Street Tree Bond Estimate Form). The bond amount must be based on these cost estimates. It should be noted that these unit prices will be updated on a regular basis. The bonds are processed as described in Chapter 13 of this Manual.

H. Construction Inspection

Once the plans have been approved, the construction process can begin. First, permits from other agencies may be required. The most common permits are described in Item F beginning on Page 14-5, Chapter 14 and in Chapter 50 of this Manual. Required permits are generally noted on the approved plans.

At the time the construction permit is issued a construction inspection deposit estimated to cover construction inspection costs is required. The deposit amount is based on the formula at the end of the Cost Estimate for Bond Purposes on Page 21-18. The deposit amount is adjusted by the Construction Division staff based on the complexity of the projects. The deposit is processed in the same manner as a private drain. (See Chapter 18 of this Manual.) Any remaining funds at the end of the project are refunded to the applicant. The applicant must keep a positive balance or the project is halted.

Construction permits can now be issued by that Section. All inquiries regarding construction inspection shall be directed to (818) 458-3141.

I. Improvement Bond Exoneration and/or Reduction

Improvement Bonds may be exonerated or at the completion of construction or may be reduced after a portion of the improvements have been constructed and accepted.

The process for exonerating and/or reducing an improvement bond begins with a letter from the developer to the Bond Administration Subunit of the Development Management Section stating what the developer desires. A copy of this letter is then sent to the Subdivision Inspection Section of the Construction Division. The inspector for the project will inspect the project, verify that the developer's request is valid, put his conclusions on a form (see Page 21-19) and reply back to the Bond Administration Subunit of the Development Management Section. They in turn will proceed in accordance with the recommendations. The bond reduction or exoneration will be prepared by this Subunit on a form which is shown on Pages 21-20 and 21-21. The completed letter will be sent to the developer with a copy to the surety company. Upon exoneration, copies are also sent to the Business and Finance Division to notify the Auditor-Controller to release any funds being held to guarantee completion of the project, and to the Traffic and Lighting Division, Operational Services Division, and Road Maintenance Division to notify these divisions to begin operation and maintenance of the accepted road improvements.

Once all bonds have been exonerated, the Department then takes responsibility for the maintenance of the road within this contract as stated in the Construction Bond Release Form.

NOTICE

PLAN CHECK FEES FOR STREET PLANS

Effective July 25, 1990

Plan Check fees will be required with plan submittal. The amount of the fee shall be the amount based on the following schedule and the engineer's estimate.

The estimate will be reviewed during the checking process when the plans meet the conditions of subdivision approval and County standards. The balance of the fee, if any, will be due at that time. An additional resubmittal fee of one hundred and fifty dollars ($150) per sheet will be assessed beginning with the fifth submittal and each subsequent submittal. Street plans will not be approved until all checking fees are paid.

In addition to the plan check fees, there is an LDMA surcharge fee of $160 for projects with an estimated construction cost of $10,001 or more.

Estimated Construction Cost	Plan Check Fee
0 - 1,000	$ 350
1,001 - 10,000	$ 350 + 6.0% over 1,000
10,001 - 100,000	$ 890 + 3.3% over 10,000
100,001 -	$3,860 + 2.0% over 100,000

Estimated Construction Cost	Additional LDMA Fee
10,001 -	$ 160

Round off partial plan check fee to the nearest dollar.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

ROAD PLANS/D.S. NO._____

Engineer _____ Phone _____

Date _____ [ ] Plans Accepted

TR/PM No. _____ [ ] Plans Rejected

In order to expedite and properly process your submittal, the items listed below are necessary. It is our policy to review only complete submittals.

[ ] 1. Tentative Map Conditions of Approval.

[ ] 2. Engineer's construction cost estimate for Bond Purposes. (See Page 21-14.)

[ ] 3. Checking deposit and fees. (See page 21-7.)

[ ] 4. LDMA Fees if in County unincorporated Territory (See Page 9-3 of Chapter 9 or 21-7.)

[ ] 5. Two (2) sets of road plans with one extra title sheet with signature, Stamp or Seal and license expiration date on each sheet of the licensed civil engineer in responsible charge of the plan preparation.

[ ] 6. "Utility Map" (copy of Final Subdivision Map with utilities shown in red) if there is R/W dedication.

[ ] 7. Copy approved or direct check hydrology study.

[ ] 8. One set each of all supporting plans/maps:

- [ ] a. Grading Plan
- [ ] b. Storm Drain Plan
- [ ] c. Final Subdivision Map
- [ ] d. Final Subdivision Map for street lights estimate
- [ ] e. Deed Map blue line and transparency if there is a Deeded Street

Note: Map and Road Plan horizontal alignment must agree.

[ ] 9. Cross-sections of adjacent existing streets where applicable.

[ ] 10. Copy of Bench Mark records from Survey Division

[ ] 11. If in City, service request.

36R-0007 DPW 5. 90

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

STREET IMPROVEMENTS PLAN CHECK CORRECTION LIST

☐ **REJECT**
- ☐ INCOMPLETE PLANS
- ☐ MISSING ITEMS

TRACT, PARCEL OR DEED MAP _____

☐ DESIGN CHECK
☐ DETAIL CHECK
☐ DIRECT CHECK

ENGINEERING FIRM _____

CHECKED BY _____

PROJECT ENGINEER _____

DATE _____

TELEPHONE (_____) _____

SUBMITTAL NO. _____

Your plans have been checked and the necessary corrections, additions, and instructions are circled below. The plans will not be rechecked until the correction list is returned showing either your check mark indicating the correction has been made or a brief explanation for each item which does not have your check mark. *Make all corrections circled below. Also, make corrections or additions indicated in red on the attached check print(s).*

NOTE: THE DESIGN ENGINEER IS ENTIRELY RESPONSIBLE FOR THE STREET STATIONING, LOCATION OF UTILITIES, EXISTING GROUND LINE ON PROFILE, HORIZONTAL AND VERTICAL CURVE DATAS AND STREET NAMES SHOWN ON PLANS. COUNTY WILL NOT CHECK THESE ITEMS FOR CORRECTNESS.

A. GENERAL

1. The Engineer's Company name, address, telephone number and signature, printed name and registration number of the engineer in responsible charge for preparation of street plan including registration seal and expiration date must be on all sheets.
2. Submit:
   - ☐ Final Map
   - ☐ Approved Grading Plan
   - ☐ Approved Drainage Study
   - ☐ Private Drain Plans
   - ☐ Deed Map
   - ☐ Separate Instrument for R/W Dedication
   - ☐ Extra ____ Sets of Plans for _____ review
3. Submit the following letters:
   - ☐ Drainage
   - ☐ Slope
   - ☐ Utility
   - ☐ Permission to Enter for Construction
   - ☐ Others _____
   - ☐ Cable T.V.
   - ☐ Hardship
4. Submit estimate for bonding purposes, inlcuding estimated cost of $ _____ for street lighting system. Use unit prices and contingencies per "Itemized Cost Estimate for Road Improvement."
5. Obtain conditional approval of other jurisdictions prior to Department of Public Works Director's signature.
6. Amount of base will be determined by Department of Public Works after streets have been rough graded. Subdivider's Engineer shall make written request for soil testing.
7. Submit M.S.U. map. This map is a print of the final map with all existing utilities delineated in red within the right of way to be dedicated. The following certification by a Registered Civil Engineer as to the accuracy of the utility survey must be placed on the map. "A thorough investigation of available records and of the property shown on this map of Tract No. _____ shows that there are no encroachments of privately owned structures or utilities in those portions of said property offered for dedication to the County of Los Angeles except as shown hereon."
8. Provided signing and striping plan for _____.
9. Submit the original tracing to this office for approval.

B. TITLE SHEET

1. Prepare key map outlining Tract boundary by showing a distinctive border. Scale of map should be 1"=200'. Show right-of-way widths, and storm drains (dash lines).
2. On key map, show drainage pattern by means of arrows. Use arrows *only for drainage.*
3. Prepare a location map. Scale 1"=600' or 1"=1,000'. Show major cross streets.
4. Show typical section(s) for all streets. The scales chosen should result in a reasonable width and show a reasonable vertical exaggeration.
5. Sign "Notice to Contractors" or remove note entirely.
6. Standard Notes—line out, add, or modify note to fit, conform to Conditions of Approval. Do not erase any notes.
7. Show sections or details for:
   - ☐ Alleys
   - ☐ Drainage Ditches
   - ☐ Others _____
   - ☐ Parkway Protectors
   - ☐ Steep Walks
   - ☐ Mail Box
8. Use Bench Mark approved by the Department of Public Works, Survey Section.
9. Show driveway modification detail for wheelchair ramps.
10. Show street tree list.

C. PLAN AND PROFILE SHEETS

1. Show existing improvements, such as pavement, curb, gutters, (including intersecting streets), driveways, drainage structures, utilities, trees, railroad tracks, and buildings in, or adjacent to, the street right-of-way. Whenever pertinent to design, these items are shown in profile.
2. Elevations of existing surveyed improvements shall be enclosed in parentheses. Parentheses are to be *only* for surveyed elevations.
3. Use street names and distances rounded to nearest 100' for limits (all sheets).
4. Show all existing utilities within the construction area and give their disposition.
5. Extend curb grades a minimum of 300' beyond Tract boundary. When joining exisiting curb, show 100' of existing profile.

21 - 9

Street improvements plan check correction list (Cont.)

6. Show street name for each street in plan view.
7. Dimension right-of-way widths, curb-to-curb width, parkway width and sidewalk.
8. Show improvements to be constructed with solid line on principal view only. Include the curb return with the more important street and use dashed lines on the plan view of the minor street. Use noticeably heavier line for curb line on plan and in profile.
9. Use construction centerline (crown line) in addition to map centerline for knuckles and cul-de-sac.
10. Show centerline and curb curve data and angle point data.
11. Show curb return data and curb profiles on both views.
12. Show stations of all BCR's, BC's, EC's, angle points and ends of improvement on plan.
13. Show notes to join existing improvements.
14. Show a north arrow for each plan view.
15. Show note to reconstruct any existing driveways affected by design to the satisfaction of the Los Angeles County Department of Public Works.
16. Show note "NO DRIVEWAYS TO BE CONSTRUCTED" (specify limits) wherever access rights are required to be dedicated.
17. Show existing or future grade as dashed, and label.
18. Label all grade lines and profiles. Show at least 2 datum elevations for each profile.
19. Show stations and T.C. elevations in profile at every BCR and for ¼ points in returns when either grade is 2% or more.
20. Show flow line elevations on plan view at joint points and through transition areas.
21. Show ground line at centerline when both a centerline profile is used and lots are graded on both sides. Otherwise, show ground line at ultimate right of way lines.
22. Show locations of street name signs to be installed on plans.
23. Show wheelchair ramps to be constructed on plans.
24. Show details for each catch basin (indicate flow line breaks).
25. Show right of way for dedicated street in solid and "private and future" street in dashed lines.
26. Show solid lines along join lines.

D. DESIGN CRITERIA

1. Provide minimum R= _____ feet on _____.
2. Provide 100 feet minimum curve length on _____.
3. Eliminate broken back curve or provide 200 feet minimum tangent on _____.
4. Provide sight distance for _____ m.p.h. at intersection of _____.
5. Increase length of vertical curve for _____ m.p.h. on _____.
6. Provide _____ % maximum grade break in _____ feet on _____.
7. Provide 3.5% maximum for summit break and 3.0% maximum for sag break at 4-way intersection on _____ _____.
8. Provide _____ % maximum grade for landing on _____.
9. Provide _____ % superelevation on _____.
10. Eliminate median islands on _____.
11. Provide drainage solution to provide _____ free lane(s) for _____ on _____.
12. Provide drainage solution to eliminate water through drives on _____.
13. Provide catch basins and drains for median landscaping on _____.
14. Remove walls and footings from street right of way on _____.
15. Obtain I.E.C. approved alignment for _____.

PLANS WILL NOT BE ACCEPTED FOR CHECKING
UNLESS THE FOLLOWING MARKED ITEMS ARE SUBMITTED

- ☐ $ _____ balance of checking fee
- ☐ Approved grading plan
- ☐ P.D. plan
- ☐ Cross sections for _____
- ☐ The correction list and check prints
- ☐ Approved hydrology map including all offsite 'Q's.
- ☐ Other _____

Additional Corrections

TRACT, PARCEL OR DEED MAP _____

Street improvements plan check correction list (Cont.)

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

CHECKOUT CARD
REVISION

Date	Line

TRACT _____

_____

MJ _____

MJB _____

Dwg _____

App'd for revision by

_____

NAME _____

AGENCY _____

ADDRESS _____

_____

PHONE _____

82-0013 DPW 1/87 (RD 287)

21-13

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION
– ROADS –
COST ESTIMATE FOR BOND PURPOSES

ROAD IMPROVEMENTS FOR TRACT OR PARCEL MAP _____

LOCATION _____

PREPARED BY _____ DATE _____ CHECKED BY _____ DATE _____

ITEM	QUANTITY	UNIT COST	TOTAL COST
3" AC & C.A.B.			
Case "B"		$ 1.25/S.F. (1.60)	
Case "C"		$ 1.45/S.F. (1.80)	
Case "D" (E.G. to E.G.)		$ 1.55/S.F. (2.00)	
Pavement Asphalt			
A.C. (2")		$ 0.55/S.F. (0.85)	
A.C. (3")		$ 0.75/S.F. (1.00)	
A.C. (4")		$ 0.90/S.F. (1.15)	
A.C. (6")		$ 1.30/S.F. (1.65)	
P.C. Concrete			
Sidewalk (4" Thick)		$ 2.70/S.F. (3.10)	
Alley Intersection (6")		$ 3.00/S.F. (3.50)	
Cross-Gutter (8")		$ 3.70/S.F. (4.30)	
Local Depression (3")		$ 3.60/S.F. (4.20)	
Driveway (4")		$ 2.50/S.F. (3.30)	
Driveway (6")		$ 3.00/S.F. (3.50)	
Pavement (8")		$ 3.50/S.F. (4.10)	
Grouted Rip Rap (6"–12")		$ 6.00/S.F. (10.00)	
Grouted Rip Rap (12"–19")		$ 7.00/S.F. (12.00)	
Gunite (3")		$ 3.50/S.F. (4.00)	
Reinforced Concrete		$ 420.00/C.Y. (480.00)	
Curb and Gutter			
P.C.C. Curb		$ 10.00/L.F. (11.50)	
P.C.C. Curb and 1" Gutter		$ 11.00/L.F. (14.50)	
P.C.C. Curb and 2" Gutter		$ 12.00/L.F. (15.00)	
A.C. Curb Type C		$ 7.50/L.F. (10.00)	
A.C. Curb Type D		$ 7.50/L.F. (10.00)	
P.C.C. Alley Gutter		$ 8.00/L.F. (9.00)	

MILEAGE (FEET)	
Major	
Secondary	
Local	

3/94

ITEM	QUANTITY	UNIT COST	TOTAL COST
Miscellaneous Items			
Street Name Signs		$ 150.00 each	
Earthwork Cut (hauling within)		$ 2.00/C.Y.	(2.90)
Earthwork Fill (subdivision)		$ 2.50/C.Y.	(3.40)
Crushed Agg. Base (per inch thickness)		$ 0.10/S.F.	(0.12)
Crushed Agg. Base		$ 32.00/C.Y.	(42.00)
Crushed Agg. Base (under sidewalk)		$ 4.00/L.F.	(4.50)
Street lights		$2,200.00 Each	
Guard Rail		$ 38.00/L.F.	(40.00)
Guide Markers		$ 12.00 Each	(15.00)
Chain Link Fence (5')		$ 10.00/L.F.	(13.00)
Chain Link Fence (6')		$ 15.00/L.F.	(20.00)
Tree Removal (Ave. 12' D)		$ 330.00 Each	(400.00)
Adjust Manhole		$ 300.00 Each	(360.00)
Tree Well and Covers		$ 72.00 Each	(79.00)
Remove Temporary Turnaround		$ 600.00 Each	
Construct Temporary Turnaround		$ 1,100.00 Each	
Underground Utilities		$ 150.00/L.F.	
Cost Per L.F. of Local Street – Case D (Estimate over $50,000)			
(1) Curb, Gutter, Sidewalk, Pavement, Base			
40' between curbs (sidewalk @ property line)		$ 105.00	
36' between curbs " "		$ 99.00	
34' between curbs " "		$ 96.00	
40' between curbs (sidewalk @ curb)		$ 118.00	
36' Between curbs " "		$ 112.00	
34' between curbs " "		$ 109.00	
(2) A.C. Inverted Shoulder Section With Base			
36' between E.P. (14'/4')		$ 57.00	
36' between E.C. (14'/4' with 4' conc. flowline)		$ 71.00	
30' between E.P. (12'/3')		$ 48.00	
30' between E.C. (12'/3' with conc. flowline)		$ 62.00	
Cul-de-sac (standard)		$12,000.00	
Cul-de-sac (offset)		$15,000.00	
Knuckle (standard)		$22,000.00	
Intersection approach (new) with cross gutter		$ 4,000.00	
Intersection approach (new) without cross gutter		$ 1,900.00	
Intersection approach (at existing streets)			
with cross gutter		$ 8,500.00	
without cross gutter		$ 5,500.00	

ITEM	PAGE	QUANTITY	UNIT COST	TOTAL COST
Drainage Facilities	A-9 to A-10			
" Pipe				
" Pipe				
" Pipe				
" Pipe				
Manhole No. 6 (Road)			$ 2,500.00	
Manhole No.	A-16 to A-20			
Manhole No.				
Manhole No.				
Junction Structure No.	A-31 to A-32			
Junction Structure No.				
Parkway Drain No. 1			$ 1,600.00	
Parkway Drain No. 2			$ 1,300.00	
Box Culvert No. 12			$ 40.00/S.F.	
Box Culvert No. 13			$ 50.00/S.F.	
Catch Basin No.	A-21 to A-30.2			
Catch Basin No.				
Catch Basin No.				
Catch Basin No.				

Contingencies: (less than 50,000 – 15%)
(50,000 – 100,000 – 10%)
(more than 100,000 – 5%)

SUBTOTAL _____

CONTINGENCY _____

Adjust to actual costs at end of each agreement period
(2 years x 6%/year = 12%) _____

IMPROVEMENT TOTAL _____

(1) If estimate is less than $50,000, use unit prices shown in parenthesis.

(2) Estimate improvements of the through street as if there is no intersection. Estimate improvement of the through street as if there is no intersection. Estimate improvements of the side street up to the BCR. Then add the appropriate cost of the intersection approach (that area between the BCR of the side street and the theoretical E.G. of the through street). At intersections where the through street is existing, estimate improvements of the side street up to the BCR, then add the appropriate cost of the intersection approach. Cul-de-sac streets are based on standard street improvements to B.C. of cul-de-sac plus adding on cul-de-sac cost. On knuckles, estimate up to standard cross section, then add knuckle cost.

(3) Refers to page in Flood Control District's 1983 Cost Estimating Manual. Where items or unit prices are not given in these sheets, use the values in the Cost Estimating Manual plus 15% for inflationary purposes.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY/LAND DEVELOPMENT DIVISION
– ROADS –
COST ESTIMATE FOR BOND PURPOSES

ROAD IMPROVEMENTS FOR TRACT OR PARCEL MAP _____

LOCATION _____

PREPARED BY _____ DATE _____ CHECKED BY _____ DATE _____

ITEM	QUANTITY	UNIT COST	TOTAL COST
Street Trees		$300.00 Each	

Contingencies: (less than 50,000 – 15%)
(50,000 – 100,000 – 10%)
(more than 100,000 – 5%)

SUBTOTAL _____

CONTINGENCY _____

Adjust to actual costs at end of each agreement period
(2 years x 6%/year = 12%) _____

IMPROVEMENT TOTAL _____

3/94

Date _____

TO:

Development Management Section
Land Development Division

FROM:

Permits and Subdivisions Section
Construction Division

Parcel Map/Tract _____

Location _____

Work within the subject Tract has been completed as follows:

Complete	Incomplete	% Complete	
☐	☐	_____	Curb and Gutter
☐	☐	_____	Sidewalk
☐	☐	_____	Base and Pavement
☐	☐	_____	Street Lights
☐	☐	_____	Street Name Signs
☐	☐	_____	Street Trees
☐	☐	_____	Sewer - PC#_____
☐	☐	_____	Storm Drain-PD#_____

Comments: _____

_____

_____

_____

_____

_____

_____

_____

_____

INSPECTOR _____ DATE _____

HEAD INSPECTOR _____ DATE _____

DWB:mc/TR-COMP

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

Date

IN REPLY PLEASE
REFER TO FILE L-5

Dear

ROAD IMPROVEMENTS
TRACT NO.
PARCEL MAP NO.
VICINITY OF

All work guaranteed by the improvement security listed below has been satisfactorily completed.

On behalf of the County of Los Angeles, we approved and accepted for maintenance the work this date and exonerated the following surety bond:

Bond Number
Amount - $
Surety -

On behalf of the County of Los Angeles, we approved and accepted for maintenance the work this date and refunded the following cash deposit:

Receipt Number
Date of Deposit -
Amount - $

On behalf of the County of Los Angeles, we approved and accepted for maintenance the work this date with the exception of
and reduced the following surety bond to
$:

Bond Number
Original Amount - $
Surety -

On behalf of the County of Los Angeles, we approved and accepted for maintenance the work this date with the exception of and reduced the following security deposit to $:

Certificate of Deposit Number
Letter of Credit Number
Passbook Number
Original Amount - $
Financial Institution -

A warrant for this cash deposit is being processed and will be sent to you in about one month.

If you have any questions, please call the undersigned at (818) 458-4953.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

HADRIAN S. LARA
Bond Administration
Land Development Division

HL:sg/rdcounty

cc:

DRAFT

CHAPTER 22

ROAD ZONING REQUIREMENTS

Title 22 of the County Code (Zoning Code) requires road improvements in most cases when there is a zone change, conditional use permit or variance request. Applications are submitted to the Regional Planning Commission for approval. A copy of the application along with the submitted data, is sent by the Department of Regional Planning, the Road Permit and the Mapping Subunit of the Road, Sewer and Water Section for review. The review by this Subunit consists of determining what road rights-of-way and improvements will be required in connection with site development in order to meet current county minimum standards for the intended use of this property. A review generally includes the items shown on the sheet on Page 22-3.

A. Street Right-of-Way Easements

Often verbal requests are received regarding street right-of-way widths for a specific piece of property. This information can be released verbally.

It should be noted that this information is shown to the public on various maps and can be different. It is important that the current master plan highway map is reviewed to determine current and future right-of-way requirements. (See Chapter 45 of this Manual.) The Transportation Planning Section of the Planning Division at (818) 458-4352 should be consulted for verification that the latest map has been reviewed. These maps are updated continuously by the Board of Supervisors and the published maps may not be current. (See Chapter 50 of this Manual.)

Any deviation from what is shown on the latest master plan highway map in our possession requires a written request for an exemption or for the preparation of an easement document granting additional right-of-way from the applicant through the Department of Regional Planning. No written information will be released without this written request through the Department of Regional Planning and approval by the Road, Sewer and Water Section Head.

B. Bridge and Major Thoroughfare Construction Fee Districts

If the site is located in an approved or proposed Bridge and Major Thoroughfare Construction Fee District, it must be determined what fees have been paid and if additional fees must be paid. If there are no existing agreements, documents must be prepared. The procedures for determining fee rates, needed agreements, security deposits are presented in Chapters 11 and 12 of this Manual.

The procedures for meeting the Bridge and Major Thoroughfare Construction Fee District requirements are noted in the conditions of approval. All fee payments, document submittals, security deposits must be submitted to the Building and Safety Division prior to issuance of a building permit.

C. Zone Changes

In the case of a Zone Change, street improvement conditions cannot be imposed as part of the approval process. However, the applicant is notified of the conditions that must be met before the project construction can be approved.

D. Conditional Use Permits and Zone Variances

In the case of Conditional Use Permits and Variances, street improvement conditions can be imposed as part of the approval process.

The recommended conditions or comments are returned by memorandum to the Regional Planning Department to allow them to set conditions for approval of the conditional use permit or variance. Once any requested right of way has been granted, the subunit notes it on the maps.

DATE

TO: John Schwarze
Zoning Administration
Department of Regional Planning

FROM: T. W. Hoagland
Road/Sewer & Water Section
Department of Public Works

CONDITIONAL USE PERMIT
ZONE CASE
VARIANCE
SUB/GENERAL/LOCAL/SPECIAL PLAN AMENDMENT
LOW TO MODERATE INCOME HOUSING PERMIT
NONCONFORMING REVIEW
PARKING PERMIT
OAK TREE PERMIT
DEVELOPMENT AGREEMENT

We have reviewed the subject case in the _____ area in the vicinity of _____ and _____.

This site is in the _____ Bridge and Major Thoroughfare Construction Fee District.

If this permit is approved, we recommend the following:

The following conditions would be recommended if a permit was required for this case:

Dedicate right-of-way ___ feet from centerline on _____.

Dedicate right-of-way ___ feet from the latest approved centerline alignment of _____.

Dedicate right-of-way for a 13-foot/27-foot radius return at the corner of _____ and _____.

Make an irrevocable offer of private and future right-of-way ___ feet from centerline on _____.

Make an irrevocable offer of private and future right-of-way for a 13-foot/27-foot radius return at the corner of _____ and _____.

Dedicate slope and/or drainage easements to the satisfaction of this Department on _____.

Dedicate vehicular access rights to _____.

Dedicate the right to restrict vehicular access to _____.

Provide pavement widening for turning access into the site to the satisfaction of this Department on _____.

Construct curb and gutter ___ feet from centerline on _____.

Construct full width sidewalk/sidewalk fill-in on _____.

Construct base and pavement on _____.

Construct a wheelchair ramp in all curb returns.

Construct any necessary drainage structures on _____.

Close any unused driveway with curb, gutter, and sidewalk.

Prior to construction of driveways, submit a site plan to Traffic and Lighting Division of this Department for approval.

Upgrade/install street lights on _____ to the satisfaction of this Department.

Plant and maintain street trees on _____.

Repair damaged improvements on _____.

Conditions for the subject permit should conform to those recommended for _____.

This case/permit is also subject to the conditions of _____.

The applicant shall submit a traffic study to this Department for review and approval; and must comply with mitigation measures identified in the approved traffic study.

The applicant shall construct or enter into a secured agreement with the Los Angeles County Department of Public Works to construct the aforementioned conditioned improvements prior to the issuance of a building permit or this permit shall be subject to revocation.

The applicant shall construct the aforementioned conditioned improvements prior to the issuance of a building permit or this permit shall be subject to revocation.

There are no right-of-way or improvement requirements recommended as a condition of approval since this case was not reviewed.

RLJ:gp L-2

CHAPTER 23

PRIVATE CONTRACT SEWERS

A private contract sewer is a sanitary sewer to be constructed by a private developer and dedicated to the County of Los Angeles for public use. Private Contract Sewer Plans must be reviewed and approved by the Sewer Subunit and construction inspected by the Construction Division Subdivision Inspection Section. Private contract sewer projects are classified as follows:

1. Private Contracts in Unincorporated Area

   Plans designed for the construction of sewerage facilities serving areas in unincorporated territories of Los Angeles County.

2. Private Contracts in Contract Cities

   Plans designed for the construction of sewerage facilities serving areas in a contract city.

3. Private Contracts Involving Reimbursements

   Any private contract involving reimbursement processing in accordance with Section 20.28.050, Title 20, of the Los Angeles County Code, under the Education Code, Section 23010.3 and 50140 of the Government Code of the State of California, or under special city procedures. Refer to Item II.A on Page 23-9 for further details.

4. Water Pollution Control Plant and Sewage Pumping Stations

   Public water pollution control plants, disposal systems, and sewage pump stations constructed under the Sewer Maintenance Districts jurisdiction must be plan checked, approved and inspected by the Department of Public Works. Also, privately owned sewage pumping or lift stations which are part of a private or building sewer as required by subsection (f) of Section 1105 of the Plumbing Code, including private pumping station which discharge directly into a public sewer through a large or extensive force main, must be processed as a private contract through the Land Development Group of the Building and Safety/Land Development Division. The plans are reviewed by the Sewer and Water Design Section of Design Division for the structural and mechanical aspects of the project, Sewer Maintenance Districts of the Waterworks and the Sewer Maintenance Division for maintenance purposes and by the Building and Safety Group of the Building and Safety/Land Development Division for compliance with electrical and other applicable County Code.

I. Private Contract Sewer Plan Processing

The processing of Private Contract Sewer plans are as follows:

A. Issuance of a Private Contract Number and Obtaining Bench Mark Data

The private contract number is issued in two ways:

1. For Private Contract Sewers Within the Los Angeles County Unincorporated Areas.

   The next consecutive Private Contract (PC) number is issued by the Public Counter of the Land Development Processing Center of the Development Management Section, when all the plans and supporting documents have been submitted. The P.C. number along with the tract, parcel map or address and date is noted in a notebook kept at the Public Counter in the Land Development Processing Center. This P.C. number must be noted on all plans and documents before they can be further processed.

2. For Private Contract Sewers Within Contract Cities

Private Contract numbers are issued by the Sewer Subunit of the Road, Sewer and Water Section. Quite often they will issue the number over the telephone to the City Services Coordinator in Programs Development Division.

The P.C. number for contract cities is different from the numbering system used for projects within County unincorporated areas. For contract cities, the project identification consists of the City's name, PC, last two digits of the year, -, project sequence. For example, Lomita PC 87-2.

The P.C. number is to be put on all plans and documents prior to being submitted to the Public Counter at the Processing Center of Land Development Division.

All sewage project surveys and elevations must be tied to a publicly referenced bench mark. To obtain this data follow the instructions in Item A.3 of Chapter 18 of this Manual. The bench marks should be the same as those noted on the road plans. The correctness of these bench marks is determined during the Road Plan check.

B. Collection of Fees and Deposits

1. Plan Check Fees For Private Sewers Within County Unincorporated Areas

The private engineer must complete a "Private Contract Sewer Plan Check Fee Computation" form shown on Page 23-12. This cost estimate form permits the estimation of an initial fee that will later be reviewed by the plan checker for accuracy. Before the private sewer plan is approved, a final fee will be computed using the "Land Development Division Private Contract Check Sheet" and the "Estimate of Quantities" Form on Pages 23-15 and 23-16, respectively. Any additional fees are noted by the Sewer Subunit and a fee adjustment noted on the project review checklist on Page 23-22 during the final review.

2. Plan Check Fees For Private Sewers in Contract Cities

The private engineer must submit a complete plan checking package to the public counter of the Land Development Processing Center. The Sewer Subunit will upon receiving the package prepare a plan check fee. The City Service Coordinator in the Programs Development Division will be given the fee amount. He in turn, notifies the City. The City then establishes the total fee and informs the Engineer. The Engineer pays the fee to the City. The City then issues a Service Request to The Department of Public Works that instructs the Land Development Division to proceed with the plan checking. During the plan check process the time consumed in checking the plan will be billed to the city utilizing the service request.

3. Outlet Agency Fees

Before approval of the plans, fees must be paid to the Outlet Agency, such as the Sanitation Districts of Los Angeles County, the Las Virgenes Municipal Water District, the Newhall County Water District, etc. The amount of these fees are determined by them. The signature on the plans by them is verification that the fees have been paid.

4. Sewer Maintenance District Annexation and Sewer Maintenance Fees

Any person who desires to place a newly constructed public sewage system in operation prior to the inclusion of the property benefitted in a sewer maintenance district, must pay an annexation and sewer maintenance charge. The amount determined by the Waterworks and Sewer Maintenance Division will cover such cost from the time the sewer is placed in

operation until the property is included in a maintenance district and district monies become available to provide for the maintenance and operation of the sewer. Such charges shall be computed by multiplying $14.50 by the number of lots and the number of months that it will normally take to place the property on the assessment roll (20 months average).

Annexation Fees to the Sewer Maintenance District are determined and collected by the Sewer Maintenance Districts on the 9th Floor of the Public Works Department Headquarters. A receipt must be presented before plan approval. The charges are determined as follows:

a. Manhole Maintenance

Such charge shall be computed by multiplying $4.17 by the number of manholes to be constructed by the number of months before the property benefitted can be included in a maintenance district and revenue becomes available.

b. Pumping and Water Pollution Control Plants

If a sewage pumping plant or a water pollution control plant is included in the computations, an additional sum shall be paid as determined by the Director of Public Works to cover the maintenance and operation costs until the property benefitted can be included in a maintenance district and revenue becomes available.

If the newly constructed sewers are in an area served by an existing sewage pumping plant or water pollution control plant, an additional sum shall be paid as determined by the Director of Public Works to cover the additional maintenance and operation costs until the property benefitted can be included in the maintenance district and revenue becomes available.

If the property benefitted is to be annexed to an existing maintenance district, the sum collected shall be deemed to have been appropriated for the year in which the sum was collected and shall be transferred to the county treasurer and credited to the funds of such district.

If a new maintenance district is to be formed, the sum collected shall be deemed to have been appropriated for the year in which the sum was collected and shall be placed in trust and expended therefrom for the purposes intended. The remainder of such sum, if any, shall be credited to the new district when formed.

5. Fees for Processing Sewer Easements

For each private contract requiring the processing of sewer easements, the applicant shall pay at the Land Development Processing Center, a fee of $350.00 for the first parcel description and title report, and $200.00 for each additional parcel through which a sewer easement is required. In the event it is necessary to revise the description and/or title report due to a realignment or revision of the easement, the Processing Center shall collect an additional fee of $150.00 for each parcel.

For each private contract requiring the vacation of a sewer easement, the applicant shall pay at the Land Development Division Processing Center, a minimum fee of $2000.00. In the event it is necessary to revise the boundary of the proposed vacation due to any revisions submitted by the applicant, shall pay an additional fee of $150.00 for each revision.

6. Connection Charges

Whenever the sewer plans indicate that the house laterals are to be constructed to an existing sewer, and it has been determined that the property did not participate in the cost

of the construction of the main line sewer, it will then be necessary for the owner of the property to pay a frontage charge to the County.

This charge, as established by the Board of Supervisors and commonly referred to as the "Ordinance Frontage Charge," is specified in Section 20.32.130 of Title 20 of the County Code. The assessable frontage and amount of the charge will be computed by the Sewer Subunit.

This charge is in an amount equal to $12.00 per front foot of the lot sought to be connected if said lot is rectangular and has an average depth of 100 feet or more. If the shape of lot is other than the usual rectangular shape, or unusual in area, and the strict adherence to the above mentioned provision would require payment of an amount not commensurate with the benefits to be received, the provisions of this section as to the amount to be charged may be modified as determined by the Director of Public Works. In no case shall the charge be less than $300.00.

Property owned by a public entity and being used by such entity in the performance of a governmental function is exempt from the requirements above.

When a public sewer has been constructed under federal aid, any lot to be connected to such sewer shall be exempt from the connection charge.

7. Fee Refund Procedures

In the event that any person shall have paid a fee as required under the sections set forth below and no work or processing has been done on these functions by the Director of Public Works, and the project has been formally abandoned or canceled, such person, upon presentation to the Director of Public Works of a request in writing, on special provided forms, shall be entitled to a refund in an amount to 80 percent of the fee actually paid for the following types of fees:

Type of Fee Paid

Sewer construction permit fees - (See Item H on Page 23-7)
Tap Fee
Manhole reconstruction inspection charges
Plan checking fees - (See Page 23-13)
Sewer easement processing fees - (See Item I.B.5. Page 23-3)
Special studies - Preparation and checking fees - (See Item II.B. beginning on Page 23-11)
Reimbursement processing fees - (See Item II.A. beginning on Page 23-9)
Charges for sewer maintenance - (See Item I.B.4. Page 23-2)

In the event that any plan checking or other work has commenced for which a fee was paid, or the contractor has commenced work on the construction, no portion of the fee shall be refunded.

Refund requests must be submitted within a one-year period after the date the fee was paid.

The Director of Public Works shall satisfy himself as to the right of such person to a refund, and each refund shall be paid as provided by law for the payment of claims against the County.

C. Plan Submittal

All private contract sewer submittals must contain all information shown on the check list on Page 23-13. These documents must be submitted to the Public Counter of the Land Development

Processing Center. All information must be presented along with the estimated fee before the project will be accepted and the Private Contract number issued. At the time of acceptance of the materials for review, the applicant must complete the postcard form A. (See instructions on Pages 12-6 and 12-7, Chapter 12 of this Manual).

D. Sewer Plan check

Once all the requirements for the plan submittal have been met, the Processing center transmits all of the materials to the Sewer Plan Check Subunit of the Road, Sewer and Water Section. The documents are received in the Subunit and plan checking scheduled, utilizing the following forms:

1. Checking Guide on Page 23-14.
2. Check Sheet on Page 23-15.
3. Estimate of Quantities on Page 23-16.

For all private contract sewer systems constructed as part of a new subdivision, it is imperative that the road, storm drain, water and grading plans be coordinated by the developer and that there is adequate cross-referencing so that errors and omissions are avoided. As part of this coordination, it must be verified that the bench marks used for sewer, road and storm drain plans are the same.

The sewer plans must be processed in conjunction with the sewer area study. The reviewers of each of these plans will coordinate their reviews and comments so that there will be consistency in all of the comments establishing approval.

Because certain information is required for sewer design, the following constraints are placed on the sewer plan check processing:

1. The sewer area study must be approved before the sewer plan check can start.

2. The sewer plans will not be approved until:

    a. The grading plan has been approved.

    b. The storm drain plans have been essentially approved.

    c. The road plans have been essentially approved.

During the review period the following documents are to be submitted as required by the project conditions:

1. The verification of utilities and water wells (Underground Letter) must be submitted and signed by the engineer. A copy of this letter is on Page 23-17. Item III.C. of Chapter 46, describes this verification and the needed information in the letter.

2. A letter of participation which lists those properties that are participating in the cost of the project. This letter of participation is shown on Page 23-18. Item IV.C. of Chapter 46, describes the preparation of this letter.

3. An Offer of Dedication is required for private contract sewers that are not part of a new subdivision. A copy of this form is on Page 23-19. Item IV.D. of Chapter 46, describes the preparation of this Offer of Dedication.

4. If a bond will be required as part of a subdivision, the cost estimate for bond purposes will be required. A copy of this form is shown on Pages 23-20 and 23-21. This form must be completed utilizing the costs on this form.

After each set of documents are reviewed, a set of plans along with a correction sheet is returned to the engineer for further information and corrections (see Page 23-22 for a copy of this form).

Once the plans are satisfactory and all sewer easements have been recorded, each sheet of the plans are initialed by the plan checker.

They are then reviewed and signed by the Sewer Subunit Head, then by the Sewer/Water Unit Head, then initialed by the Road, Sewer and Water Section Head and finally signed by the Assistant Division Engineer. The original plans then must be returned to the design engineer, who must send them to the outlet agency such as the Sanitation Districts of Los Angeles County, the Las Virgenes Municipal Water District or the Newhall County Water District for their approval and signature as described on Page 23-23.

Once all the approvals have been obtained, the design engineer makes prints from the original signed copies and sends them to the various affected organizations as described on Page 23-23. The sewer plan checker then calculates a construction inspection fee using the form on Page 23-21. Upon payment, a construction permit can be issued by the Construction Division.

E. Change of Plans

The procedures listed below are to be followed when a change is desired on any portion of the sewer plans of a private contract.

1. After Plans Have Been Checked but Prior to Approval

   A fee as specified in Section 20.32.230 of Title 20 shall be paid for any additional work which increases the total valuation.

2. After Plans Approved

   a. Letter of Request

      A Letter of Request must be submitted by the private engineer giving adequate information and reasons for the requested plan change. This letter should be directed to the Land Development Division, Road, Sewer and Water Section.

   b. Supplemental Fees

      A fee as specified in Section 20.32.230 of Title 20 of the County Code shall be paid for any additional work which increases the total valuation.

      If the construction permit has been issued, a supplemental construction inspection fee will also be required if additional sewer lines or facilities have been added.

   c. Revision Approval Box

      A revision box shall be provided on the title page giving a brief but complete description of the revisions. This box shall be prepared as shown below.

REVISION NO._____ DATE _____
Description of revision in full including page number and stationing involved.
APPROVED_____ Department of Public Works/ R.E. NO.

In some major changes, the signatures of the Assistant Division Engineer of the Land Development Division and the outlet agency Chief Engineer may be required in the above revision box.

d. Revised Prints

Any revision will require that a complete distribution of new prints be made. (Refer to Item C, Page 23-4.)

A new set of Index Maps will also be required if the revisions affect main line sewer or manhole locations. (See Chapter 46 of this Manual.)

e. Rights of Way

If the plan change involves acquisition of additional sewer easements, the physical construction of any improvements within such easements will not be permitted until the right of way has been granted to the County. (See Chapter 46, Item IV.)

F. Resubmittals

Additional information and revised plans must be submitted in the same manner that the original information was submitted. (See Item C on page 23-4.) It will be of great assistance in the processing if the name of reviewer is noted on submitted part card. It is very important that work being reviewed by a private consultant be noted on the post card that the counter personnel are advised. For further information, contact the program coordinator at (818) 458-4930.

G. Permits from Other Agencies

Before a construction permit can be issued, permits from other agencies may be required. The most common permits are described in Item E, Page 14-5, Chapter 14 of this Manual. These required permits may be described elsewhere in this Manual. All required permits must be noted on the plans.

H. Sewer Construction Inspection

For all private contract sewers constructed as part of a subdivision development, the Subdivision Inspection Section of Construction Division is responsible for the construction inspection. The Permits Section collects the inspection fees and issues construction permits. The procedures issued by that Section for obtaining a construction permit are on Page 23-24. A copy of the application form is on Page 23-25. In addition if the construction is in an existing road right-of-way, a road excavation permit is required. A copy of this permit application form is in Chapter 18 of this Manual. Copies of these forms are available at the public counter on the 8th floor. All questions regarding completion of application forms and construction inspections should be directed to this Section at (818) 458-3141.

For all private contract sewers not constructed as part of a subdivision development, the Permits and Utilities Section of Construction Division is responsible for the construction inspection. This Section collects the inspection fees and issues construction permits. All questions regarding construction inspections should be directed to this Section at (818) 458-3129.

During construction under certain circumstances, the sewers can be partially or entirely connected to the buildings. The following procedures can be followed:

1. Ninety-Five Percent Completion:

   When the sewer is 95 percent complete, permission can be granted by the Construction Division to hook-up the buildings to the sewer. Ninety-five percent completion means that all work has been done and the sewers tested except for adjusting the manholes after paving and removing the sand traps in all outlets. A letter on Page 23-26 is sent the permittee which allows the developer to request permission to hook-up to the sewer through a request for provisional house connection permits letter. A copy of this letter is on Pages 23-27 and 23-28. Before this can be approved by the Department, a House Connection waiver from the contractor approving the provisional house connections must be submitted (See a sample on Page 23-29.)

2. House Lateral Extension

   Occasionally, the contractor desires to extend the house laterals out of the street right-of-way so that the street can be completed. A request to extend the "Four-Inch House Laterals" must be submitted to the Construction Division. (See sample letters on Pages 23-30 and 23-31. The first letter is designed for the case where there are no plumbing from the building and the end of the extension must be marked. The second letter is designed for the case where there is plumbing to hook-up.)

   Once construction has been completed, the Construction Division sends a Notice of Completion letter, shown on Page 23-33, to the Sewer Subunit, who in turn proceeds with the processing of the original plans showing the as-built conditions. These plans become known as the "Record Plans." The original plans are kept by the Sewer Unit in a special vault at Pacoima. Three copies are made and are sent as follows:

   1. The affected Building and Safety District Office.
   2. Sewer Maintenance District files.
   3. Land Development Division files.

   The Building and Safety Division District Office is supposed to note on the House Numbering Maps, the location of all easements, sewer and sewer ingress and egress and house laterals. No building construction is permitted within the easements.

II. Sewer Transfer

Once the project has been completed and accepted by the Construction Division and the "Record Plans" completed, the sewer can be transferred to the County Sewer Maintenance District for maintenance. The following procedures are used for transferring the sewer:

1. If the sewer is within a tract in county unincorporated areas the form on Page 23-33 are completed if only a portion of the sewer improvements are to be accepted and on Page 23-34 if the entire sewer is to be accepted.

2. If the sewer is not part of a subdivision but is within county unincorporated county territory, a letter is prepared to the Board of Supervisors requesting that they accept this sewer (See Pages

23-35 and 23-36 for an example of a typical letter). Once this letter is approved by the Board of Supervisors, the Sewer Maintenance Districts are notified to take over maintenance of the sewer.

3. If the sewer is in a contract city, a letter is prepared for the City Council for their adoption. An example is on Pages 23-37 and 23-38.

J. Bond Exoneration

Whenever there has been a bond issued guaranteeing construction of a sewer system (see Chapter 13), the bond is exonerated upon notification by Construction Division that the sewer has been completed in accordance with the plans and specifications and is ready for acceptance for public use. Upon receiving notice of such completion the Bond Administration Subunit of the Development Management Section begins the bond exoneration and acceptance process (See Chapter 13). This consists of sending a standard letter to the developer with a copy to the surety company (see sample of each on Pages 23-39 and 23-40.)

III. Special Sewer Plan Processing Procedures

Occasionally there is additional processing from the normal sewer plan processing is required. The following are some of them:

A. Sewer Reimbursement Districts

1. Reimbursement Projects

In accordance with Section 15007 of the Education Code and Sections 23010.3 and 50140 of the Government Code of the State of California, the Board of Supervisors will enter into reimbursement agreements with individuals, corporations, school districts or subdividers for the construction of sewerage facilities that are constructed to serve or benefit additional areas other than the property of the owner constructing the sewer. Payment may be on a long term "deferred basis" or immediate "lump sum."

Generally the steps involved in the processing of a Reimbursement Project are as follows:

a. A comprehensive area study must be prepared. This may be done by the Engineer or it will be prepared by the Land Development Division upon receipt of the special study fee in accordance with Title 20 of the County Code, Sanitary Sewer and Industrial Waste Code.

b. The reimbursement processing fee must be submitted. This is to provide for the preparation of all agreements, maps, reimbursement calculations, etc.

c. The sewer plans must be completed before final processing can be accomplished.

d. An agreement will be prepared by the Land Development Division, Department of Public Works setting forth the maximum amount of reimbursement or an amount equal to a certain percentage of the total cost necessarily incurred in constructing the main line sewer, whichever is the smaller, and also setting forth the terms and conditions under which reimbursement will be paid.

e. After the agreement has been entered into a "Notice Inviting Bids" must be published at least once in the "Dodge Construction News-Green Sheet Edition" or in the Daily Construction Service publication. The notice must be approved by the Land Development Division Engineer before publishing. Publication must be made at least 7 days prior to the date for opening bids.

f. Proposal or bid forms must also be submitted to the Land Development Division Engineer for approval before being given to the prospective contractors.

g. Bids submitted by contractors must be accompanied by bid bonds made out to the developer for at least 10% of the total bid price.

h. Sealed bids must be presented to the Sewer Subunit of the Land Development Division on or before the time specified in the Notice Inviting Bids.

i. An exception to this is that on school district reimbursement projects, bids may be opened in their offices.

j. Bids will be opened by the Road, Sewer and Water Section Head in the Land Development Division immediately following the time specified in the Notice in the presence of the contractors and any other persons interested in the project.

k. After the bids have been analyzed, the successful bidder will be designated by the Board of Supervisors upon recommendation of the Land Development Division Engineer and by written notice the developer will be authorized to enter into a contract for the proposed work. It is mandatory that a contract be entered into with the successful bidder.

l. Upon completion of the construction, receipted bills for the cost of all work relating to the sewer and an Affidavit of Publication must be submitted in triplicate to the Sewer Subunit of Land Development Division. The Land Development Division will request these bills and set forth the acceptable form.

m. The Sewer Subunit will prepare a claim which, if satisfactory to the subdivider, must be signed by the same persons or corporation who signed the agreement. If new owners have acquired the property between the time the contract is signed and the claim for payment is made, authority to pay the new owner in the form of an assignment must be submitted in triplicate. The signatures of individuals and partnerships shall be duly notarized and corporation signatures shall bear the corporation acknowledgment. The signed claim, in triplicate, is to be returned to the Sewer Subunit. Upon acceptance of the sewers by the Board of Supervisors, the claim will be forwarded to the County Auditor for payment.

n. If the claim is in order, payment will be made in about ten days if lump sum payment was stipulated in the reimbursement agreement. Otherwise payment shall be made as stipulated in the agreement.

2. Fees for Reimbursement Jobs

For each private contract requiring the processing of reimbursement documents and maps, the fee is specified in Section 20.32.260 of Title 20 of the County Code. According to that section, the applicant shall pay at the Land Development Processing Center, in addition to the plan checking fee, a fee of $1,500.00 for the preparation of reimbursement documents and maps. If the cost of doing the work exceeds $1,500.00, a supplemental fee shall be collected to cover the additional cost, as determined by the Director of Public Works.

3. Area and Connection Charges in Reimbursement Districts

If any property is in or tributary to a sewer reimbursement district which has been formed by the Board in accordance with Item 1 above, no permit shall be issued for the connection of such property to a public sewer until, in addition to any other fees required by Title 20,

Division 2 and by Title 28 of the County Code (Sewer and Plumbing Codes, respectively) all area charges and frontage charges required by this section have been paid.

An area charge computed by the area rates established for the reimbursement district shall be collected, whether or not additional public sewer is being constructed to serve the property. If the property is in more than one reimbursement district, an area charge shall be collected for each district.

Additionally, if the reimbursement agreement provides for frontage reimbursement, any lot located in the frontage reimbursement area and seeking direct house connection to any public sewer shall pay a reimbursement district connection charge in the amount specified below.

The reimbursement district connection charge shall be computed at the rate of $7.00 per front foot of the lot sought to be connected with the frontage to be determined as provided in Item 1.B.6, Page 23-3, but in no case shall be charged less than $200.00.

If a reimbursement district connection charge is collected as provided in this section, then the connection charge required by this Item 1.B.6 shall not be collected.

B. Special Studies

Quite often it is necessary for an engineer or subdivider to request the Land Development Division to make a special study so that they can determine certain information before they begin the design of a sewer.

These studies may include area studies to determine the most feasible outlet and required pipe sizes; reimbursement studies to determine eligibility and approximate amount of reimbursement and cost to the subdivider; preliminary treatment plant layouts; and other difficult problems.

Before proceeding with the preparation of a special area or reimbursement study to serve a specified area, a fee of $350.00 as set forth in Section 20.32.250 of Title 20 of the County Code is required.

If after the fee is paid, a change in the study is requested which will increase the cost of doing the work, a supplemental fee shall be collected in the amount of the estimated additional cost. Area studies prepared by others and submitted for checking by the Department of Public Works shall be subject to a fee of $200.00 as specified in Section 20.32.250 of Title 20 of the County Code.

If the Director of Public Works determines that a flow measurement of this existing system is required, there will be an additional minimum fee of not less than $600.00 per manhole.

However, there shall be no additional fee collected for the checking of a study required in connection with plan checking for which a fee has been paid for plan checking under Section 20.32.230 of Title 20 of the County Code (see Pages 23-12 and 23-13).

PUBLIC WORKS DEPARTMENT
LAND DEVELOPMENT DIVISION

PRIVATE CONTRACT SEWER PLAN CHECK FEE COMPUTATION

Parcel Map or Tract No. _____ Location _____

Prepared by _____ Date _____

Checked by _____ Date _____

VALUATION COMPUTATION

1. Setup Valuation Constant	$2,700
2. _____ Ft. of VCP Mainline Sewers at $34./ft.	$_____
3. _____ Ft. 4" or 6" VCP House Laterals at $21./ft.	$_____
4. _____ Manholes at $2,100 each	$_____
5. Miscellaneous Special Structures	$_____
Total valuation	$_____

PLAN CHECK FEE CALCULATION

1. Base fee for valuation less or equal to $5,000	$ 350.00
2. Plus $5.40/$100 of valuation for valuation between $5,000 and $20,000	$_____
3. Plus $4.00/$100 of valuation for the remaining valuation over $20,000	$_____
Plan check fee	$_____
LDMA fee for sewer plan with estimated valuation of more than $10,000. (Projects within County Unincorporated Territory Only)	$ 150.00
Total amount to be submitted	$_____

The applicant will complete this form and submit it with the first submittal. Before approval of the plans, the plan checker will verify the quantities for determining valuation using the form on Page 23-16 and if necessary adjust the sewer plan check fee using this form. The correction sheet will show the final plan check fee. Any deficit must be paid with the next submittal of the plans.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

SEWER PLAN SUBMITTAL

Private Contract No. Date _____

Tract/Parcel Map _____ [ ] Plans Accepted

Non-Subdivision Name _____ [ ] Plans Rejected

In order to efficiently process your submittal, the items listed below are necessary. It is our policy to review only complete submittals.

[ ] 1. Private Construct Sewer Plan Check Fee Computation (See Page 23-12)

[ ] 2. Checking deposit or fee: Amount calculated by the private engineer on form on Page 23-12.

[ ] 3. L.D.M.A. Fees if in County Unincorporated Territory. (See Page 23-12.)

[ ] 4. Two (2) sets of Sewer plans with signature stamp or seal and license expiration date of a licensed Civil Engineer.

[ ] 5. Separate reproducible 8 1/2" x 11" index map (scale 1" = 600').

[ ] 6. Area study.

[ ] 7. Field notes showing ties to existing sewer outlets, elevations of existing inlets and outlets, and existing elevation of surface over proposed sewer if grading and street improvement plans not included in this project.

[ ] 8. One set each of all supporting plans/maps:

- [ ] a. Final Subdivision Map
- [ ] b. Grading Plan
- [ ] c. Storm Drain Plan
- [ ] d. Street Plan

[ ] 9. Easement sketch and Easement Processing Fee when proposed sewer crosses through private property

[ ] 10. Copy of existing sewer plan showing outlet for proposed sewer.

[ ] 11. If in City, service request

PC-5 7-86

LAND DEVELOPMENT DIVISION
ROAD, SEWER AND WATER SECTION

CHECKING GUIDE

CHECKED BY _____ PRIVATE CONTRACT NO. _____

		EACH SHEET	1	2	3	4	5
PLAN	REAL ESTATE	Tract Names or Numbers Block and Lot Numbers Lot Dimensions					
	STREETS	Names and Dimensions Curbs, Gutters and Sidewalks Proposed Widening Lines Existing Surfaces					
	SEWER	Ties to Sewer and Manholes Structure Notation and Stationing Location of Sewer Intersecting Sewers Existing Sewers noted Specials (encasement, jacking, cradle, etc.)					
	HOUSE LATERALS	All lots served Depth (proper notes) Chimneys and Special House Laterals Running Traps Connection Charges Noted Backwater Valves					
PROFILE	SEWER	Distance between structures Invert elevations and depth Pipe size, type and material Specials (encasement, Joints, etc.)					
	STRUCTURE	Type, stationing and plotting Specials (extensions, brickwork, etc.)					
	SURFACE	Curb grades and top Manhole elevations Original surface over sewer Low back lot lines					
GENERAL		Title page and notes Index map, B.M. etc. North points Charges, page numbers and lettered sections					

Additional information by Checker here. Use back side if necessary.

23-14

PC-3 9-64

LAND DEVELOPMENT DIVISION PRIVATE CONTRACT CHECK SHEET

NOT REQUIRED	DATE REC'D	ITEM	DESCRIPTION
		FIELD NOTES	CHECKER: P.C.
		STORM DRAIN CLEARANCE	NAME:
		BENCH MARK CLEARANCE	VICINITY:
		UNDERGROUND LETTERS	Thomas; W.S.: SAN. DIST.:
		APPROVED ROAD GRADES	SUP. DIST.: BLDG. DIST.:
		TRACT MAP OR PLOT PLAN	M.L.S.: FT.: ENGINEER:
		BONDS: FAITHFUL PERFORMANCE $ LABOR AND MATERIALS $	
		OFFER OF DEDICATION (TYPED:)	
		LETTER OF PARTICIPATION	
		SEPARATE INDEX MAP	
		R/W CLEARANCE (M.S.) ON TRACT MAP:	
		MAINT.: CALC.:	
		DISTRICT: $	
		REIMB. CALC.:	
		TO P.C.: $	
		ORD. FRTG. CHG.: CALC.:	
		$	
		C.I. OR SAN. DIST.: CALC.:	
		TO: $	
		OUTLET CLEAR	
		INDUSTRIAL WASTE APPROVAL	
		CITY APPROVAL	
		STATE AND CO. ROAD REQMTS.:	
		TEST HOLE AND COMPACTION INFO.:	
		INCORP. OR ANNEX.: CITY OF NONE:	
		WATER WELL LOCATION: NONE PER ENG:	
		AREA STUDY: ATTACHED: IN:	
		FIELD CHECK: DATE: NONE MADE:	
		REMARKS:	

STATUS

ITEM		DATE
PLAN CHECK FEE $		
R/W FEE $		
REIMB. DEPOSIT $		
ENGINEER NOTIFIED PLANS NOT ACCEPTABLE:		
CHECKING STARTED:		
ENGINEER NOTIFIED PLANS READY FOR CORRECTIONS:	1	
	2	
	3	
RECEIVED PLANS FOR FINAL CHECK	1	
	2	
	3	
COMPLETED BY CHECKER:		
APPROVED:		
CONST. PERMIT: $		

23-15 ✓

LOS ANGELES COUNTY

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
SEWER PLAN CHECK SUBUNIT

PC-22 1-64

ESTIMATE OF QUANTITIES

COMPUTED _____

COMPARED _____

DATE _____

P.C. _____

C.I. _____

NAME _____

PAGE No.	MAIN LINE SEWER										H. L. SEWER					STRUCTURES					SPECIALS
					12"E.D.	12"S.D.	10"E.D.	10"S.D.	8"E.D.	8"S.D.	H.L's E.D.	H.L's S.D.	6"ED	6"SD	6"CH.	M.H.	TRAP	DTMH			

23-16

SAMPLE VERIFICATION OF UTILITIES AND WATER WELLS LETTER

Date: _____

Director of Public Works
900 South Fremont Avenue
Alhambra, California 91803-1331

Attention: Road, Sewer and Water Section
Land Development Division

Dear Sir:

PRIVATE CONTRACT NO. _____

SEWER IN _____

VICINITY _____

I have checked with the agencies having jurisdiction over the dedicated roadways, (Los Angeles County Department of Public Works and/or California Department of Transportation), and they have approved the location of the proposed sewers.

I have made a search of the available records as well as a physical inspection of the site and all water wells found within 200 feet of the sewers, if any, are shown on the plans.

In compliance with Section 20.32.550 of the Los Angeles County Code I have checked and determined from the following utility or other companies having easements water, wells or other substructures in the affected area, that the location and size of such structures, as shown on the submitted plans are the same as shown upon such company's record and to the best of knowledge there is no interference with the proposed sewers.

Utility Company Names: _____

_____

_____

_____

_____

Signed: _____

REG. C.E. NO. _____

Stamp or Seal
Expiration Date

SAMPLE LETTER OF PARTICIPATION

Date _____

Director of Public Works
900 South Fremont Avenue
Alhambra, California 91803-1331

Attention: Road, Sewer and Water
Land Development Division

Private Contract No. _____

Name/Parcel Map/Tract No. _____

Dear Sir:

The following is a full and complete list of all legal descriptions for abutting properties which have contributed to the cost of construction of the sewer system constructed under Private Contract No. _____.

_____
Developer or Property Owner(s) (Print or Type)

_____
Signature(s) Developer or Property Owner(s)

Note: 1. Properties connecting to Public Sewers constructed at no cost to the abutting property may be made subject to charges as prescribed by Sections 20.32.130, 20.32.140, 20.32.150 of the Los Angeles County Code.

2. Notarization of signatures not required.

OFFER OF DEDICATION

Honorable Board of Supervisors
County of Los Angeles
California

We hereby declare that the sanitary sewers and appurtenant structures constructed under Private Contract No. in accordance with the plans filed in the Office of the Department of Public Works are built for public use and that upon their acceptance by the County of Los Angeles, all right, title, and interest of the undersigned in and to said sewers shall vest in said County.

(Corporate Seal)

Note:

All signatures must be acknowledged before a notary public. (Attach appropriate acknowledgements.)

23-19 ✓

PC-23 (4/88)

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
- SEWER SYSTEMS -
COST ESTIMATE FOR BOND PURPOSES P.C. NO. _____

SEWER SYSTEM FOR PARCEL MAP OR TRACT NO. _____

LOCATION: _____

PREPARED BY _____ DATE _____ CHECKED BY _____ DATE _____

ITEM	QUANTITY	UNIT COST (1)	TOTAL COST
4" V.C.P. House Lateral Sewer		$ 20.00/ft	$
6" V.C.P. House Lateral Sewer		22.00/ft	
8" V.C.P. Main Line Sewer		28.00/ft	
10" V.C.P. Main Line Sewer		33.00/ft	
12" V.C.P. Main Line Sewer		40.00/ft	
15" V.C.P. Main Line Sewer		52.00/ft	
18" V.C.P. Main Line Sewer		65.00/ft	
Manhole		2,100.00 ea	
Break into Existing Manhole		540.00 ea	
Extra Depth Construction (10'-12')		3.50/ft	
" " " (12'-14')		6.00/ft	
" " " (14'-16')		8.50/ft	
" " " (16'-18')		11.00/ft	
" " " (18'-20')		13.00/ft	
Cast-Iron Pipe		7.00/in/ft	
Concrete Encasement or Cradle		5.00/ft	
Special Encasement or Cradle		10.00/ft	
Excavation in Rock Areas		8.50/ft	
Unstable Bedding		6.00/ft	
Jacking Steel Casing		500.00/ft	
Breaking Pavement and Resurfacing - A.C.		6.00/ft	
Breaking Pavement and Resurfacing - Concrete		11.00/ft	

SUBTOTAL _____

Contingencies Less than $50,000-15%
50,000 to 100,000-10%
More than 100,000-5%

CONTINGENCY _____
Adjustment to actual costs at end of agreement period (2yrs X 6%/yr=12% _____

(A) IMPROVEMENT TOTAL _____

*(B) INSPECTION _____

TOTAL (A + B) _____
(ROUND UP TO NEAREST THOUSAND)

* See page 2 of 2 for determination of the inspection and record plans fees per Section 20.32.120 of Title 20 of the Los Angeles County Code.

4/88
Sewer/22

23-20

INSPECTION AND RECORD PLAN FEES

(A) Total Valuation of Proposed Improvements	(B) Inspection & Record Plan Fee
$ 600.00 or less	$ 65.00
601.00 to $ 1,000.00	130.00
1,001.00 to 1,500.00	210.00
1,501.00 to 2,000.00	295.00
2,001.00 to 2,500.00	375.00
2,501.00 to 3,000.00	450.00
3,001.00 to 3,500.00	525.00
3,501.00 to 4,000.00	600.00
4,001.00 to 4,500.00	675.00
4,501.00 to 5,000.00	740.00
5,001.00 to 6,000.00	870.00
6,001.00 to 7,000.00	985.00
7,001.00 to 8,000.00	1,090.00
8,001.00 to 9,000.00	1,190.00
9,001.00 to 10,000.00	1,280.00

A. For each $1,000.00, or fractional part thereof, of the total valuation of the proposed work in excess of $10,000.00 and not exceeding $50,000.00, an additional $85.00;

B. For each $1,000.00, or fractional part thereof, of the total valuation of the proposed work in excess of $50,000.00 and not exceeding, $100,000.00, an additional $65.00;

C. For each $1,000.00, or fractional part thereof, of the total valuation of the proposed work in excess of $100,000.00, an additional $50.00;

D. For additional work approved by the county engineer but not included in the original permit, the applicant shall pay a base fee of $8.00 and an additional fee of $8.00 for each $100.00, or fractional part thereof, of the total valuation of such additional work.

(PC-4:08)
Rev. 5/89

_____ SHEETS	_____ REVIEW

ENGINEER _____ PRIVATE CONTRACT NO. _____

NAME OR TRACT NO. _____ CHECKER _____

DATE _____

A. The following checked items are needed BEFORE sewer plans can be signed *(except):

____ CORRECTED TRACING AND INDEX MAP.

____ COPY OF FIELD NOTES showing: ____ Existing Manhole ties and invert elevations; ____ Surface over sewer; ____ Topography.

____ AREA STUDY.

____ PRINTS OF ROAD PROFILES with APPROVED curb grades.

____ PRINT OF PLOT PLAN.

____ PRINT OF GRADING PLAN.

____ PRINT OF STORM DRAIN PLAN.

____ SEPARATE SKETCH OF INDEX MAP on 8½" x 11" vellum.

____ UNDERGROUND LETTER (Two forms are attached. COMPLETE AND RETURN one.) (SIGN BY ENGINEER)

____ CONSTRUCTION DIVISION LETTER approving private contract sewer alignment, (818) 458-3129.

____ PARTICIPATION LETTER (Three forms are attached.) COMPLETE AND RETURN two. (The description of the participating property should be as simple as possible, for example: "Tract No. 40,000." or "ALL PROPERTY FRONTING ON SEWER.") (SIGN BY OWNER)

____ REVISED TRACT MAP showing _____

____ SANITARY SEWER RIGHT-OF-WAY CLEARANCE

____ ANNEXATION TO COUNTY SANITATION DISTRICT NO. _____ (For information, call (213) 699-7411 from Los Angeles, (213) 685-5217.)

____ INFORMATION ON INDUSTRIAL WASTE (What will proposed sewer serve?)

____ Calculate & return attached Bond Cost Estimate

____ *PERFORMANCE BOND $_____, LABOR AND MATERIALS BOND $_____ (Bond forms furnished by Subdivision Section.)

____ OFFER OF DEDICATION (Four copies are attached.) EXECUTE AND RETURN the original and first two carbon copies. (SIGN BY OWNER)

____ SEWER MAINTENANCE FEE OF $_____. (Make check payable to Department of Public Works.) Pay at Waterworks & Sewer Maintenance Division on the 9th floor, 900 S. Fremont Avenue, Alhambra,CA, 91803.

____ REIMBURSEMENT CHARGE OF $_____. (Make check payable to Department of Public Works.)

____ ORDINANCE FRONTAGE CHARGE OF $_____. (Make check payable to Department of Public Works

____ WAIVER (four copies are attached. EXECUTE AND RETURN the original and first two carbon copies.)

____ THE FOLLOWING CIRCLED ITEMS ARE NOT SHOWN ON THE PLANS:

1. Street Names
2. Tract Numbers
3. Lot Numbers
4. Lot Dimensions
5. Existing outlet and outlet agency
6. Legal description of properties along off-site main.

_____

_____

B. PLANS WILL NOT BE ACCEPTED FOR CHECKING UNLESS THE FOLLOWING ARE SUBMITTED:

____ The correction list and check prints.

____ Balance/ Supplemental plan checking fee $ _____

____ _____

____ _____

____ _____

23-92 1

COUNTY OF LOS ANGELES
LAND DEVELOPMENT DIVISION
DEPARTMENT OF PUBLIC WORKS
900 South Fremont Avenue
Alhambra, California 91803

May 1, 1993

MEMORANDUM TO PRIVATE ENGINEERS, SEWER CONTRACTORS
OR AUTHORIZED REPRESENTATIVES

SUBJECT: DISTRIBUTION OF PRINTS FOR PRIVATE CONTRACT SEWERS (AFTER OUTLET AGENCY APPROVAL)

Gentlemen:

Effective immediately, the Construction Permit will not be issued on any Private Contract sewer project until the approved tracings and prints have been distributed as follows:

1. Land Development Division, 5th Floor
   Subdivision Sewer Section,
   900 South Fremont Avenue
   Alhambra, California 91803

   Each Sheet - Original tracing
   7 Blue line prints

2. County Sanitation Districts of Los Angeles County or Las Virgenes Municipal Water District (Whichever applies).

   Each sheet - 3 Blue line prints

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT ADMINISTRATIVE OFFICE

1955 Workman Mill Road - Whittier, California 90601

Mailing Address: P.O. Box 4998, Whittier, California 90607

Telephone No.: (310) 699-7411 - from Los Angeles (213) 685-5217

LAS VIRGENES MUNICIPAL WATER DISTRICT

Mailing Address: 4232 Las Virgenes Road
Calabasas, CA 91302

Telephone No.: (818) 880-4110

(SD1/1)

"How To Obtain A Sewer Construction Permit"

To obtain P.C. permits, the following must be submitted to Permits and Utilities Section:

1. A check to cover the inspection fee amount. (Call Permits and Utilities Section at (818) 458-3129 in advance to obtain exact amount of construction inspection fee which may include road excavation permit fee, if a road excavation permit is required).

   *Call Land Development Division at (818) 458-4909 to make sure the plans are signed and are delivered to Permits and Utilities Section before calling for amount of inspection fee.

   *If construction is in a City, you must call the City to obtain the inspection fee.

2. A copy of OSHA and worker's compensation certificate. (If the worker's compensation number is on the computer list, permit will be issued without an actual copy, but a copy of OSHA must be presented at the counter before the permit is issued.)

   *OSHA and worker's compensation must be under the same contractor.

   Note: If construction is in a city, the inspection fee must be paid directly to the city. The applicant must obtain a copy of a SERVICE REQUEST and present it at the counter to get a permit. For cities that the Department of Public Works issues road excavation permits, the fees will be paid at the Permits and Utilities Section counter, not at the City.

MN:cma/SEWER
C-3

26-0095 DPW 11/86

APPLICATION FOR CONSTRUCTION PERMIT

CONSTRUCTION DIVISION
DEPARTMENT OF PUBLIC WORKS
COUNTY OF LOS ANGELES

Rd. Permit _____

OSHA _____

Work. Comp. _____

Date _____
P.C. No. _____
J.N. _____

Applicant _____ Address _____

City _____ Tele. No. ( ) _____

Name of Project _____ Region _____

Location _____ Thomas Guide Pg. _____

Contractor _____ Address _____

City _____ Tele. No. ( ) _____

Signature of Applicant or Authorized Agent _____

Note: The Contractor shall notify prior to 9:00 A.M.,

Mr. _____, Head Constr. Insp. _____ Region,

Telephone Number _____, 24 hours before starting work under this permit.

DESCRIPTION OF WORK	VALUATION	FEE
I. CONSTRUCTION-INSPECTION AND RECORD PLANS:		
Mainline and House Lateral Sewers	$ _____	
Sewage Pump Station and Force Main	_____	
Treatment and Disposal Facilities	_____	
Others _____	_____	
_____	_____	
TOTAL	$ _____	$ _____
II. SUPPLEMENTAL — Construction-Inspection and Record Plans	$ _____	$ _____
III. L.D.M.A. FEE _____		$ _____
IV. MISCELLANEOUS _____		$ _____
	TOTAL PERMIT FEE $	_____

T. A. TIDEMANSON, Director of Public Works — VALIDATION

By _____ Office No. _____

White - Permit Section
Canary - Applicant
Pink - B&F (Cashier)
Green - Subdivision Inspection Sect.
Goldenrod - LDMA

23-25 ✓

SAMPLE 95% COMPLETION LETTER

(To be on Department Letterhead)

This letter is sent to permittee with copy to Land Development Division

Date _____

Private Contract No. _____

Dear Sir:

Name/Parcel Map/Tract No. _____

For your information, construction of the sanitary sewers on the above captioned project has been completed, cleaned, and tested, except for the work described below.

The work which remains to be done consists essentially of adjusting the manholes to finished pavement grade and the removal of sand traps in all outlets; this work cannot be accomplished until the paving is completed.

When the paving is completed, notify this office, telephone (818) 458-3219 so that arrangements can be made for a final inspection. You must be represented at this inspection by someone capable of removing and/or replacing sand traps. This inspection will be made to ascertain that manholes have been adjusted properly and that sewer lines are clean.

Provisional permits to connect houses to the sewer may be issued provided the subdivider, by letter, accepts responsibility for cleaning and maintaining the sewer until all work is completed and accepted. The letter (four copies) should agree in form to the attached sample.

Also, four copies of the attached waiver form are required.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

Supervising Civil Engineer III
Construction Division

Attachment

JMC91

Rev. 10-91

1 original & 4 copies

Bring to Subdivision Inspection - 8th Floor

SAMPLE REQUEST FOR PROVISIONAL HOUSE CONNECTION PERMITS LETTER
(Subdivider's Letterhead)

(If in a contract City, change the
words "Director of Public Works"
to "City Engineer.)

Director of Public Works
900 South Fremont Avenue
Alhambra, California 91803-1331

Attention: SUBDIVISION INSPECTION SECTION
CONSTRUCTION DIVISION

REQUEST FOR PROVISIONAL HOUSE CONNECTION PERMITS

SEWERS IN TRACT NO. _____

PRIVATE CONTRACT NO. _____

Permission is requested to connect the houses on Lots _____ of Tract No. _____ to the mainline sewer constructed under Private Contract No. _____. The certificate of partial acceptance pending manhole adjustments and cleaning was issued by the Director of Public Works on _____.

Until such time as the streets have been paved, the manholes adjusted to finished street grade, and the sewer cleaned, inspected and found satisfactory by the Director of Public Works, we will assume all responsibility for the protection and maintenance of the sewers and appurtenances.

We will install three 4" by 4" posts, eight feet long, set three feet into the ground around the perimeter of all manholes in areas where construction equipment travels or operates, such posts to the maintained in place until the start of final paving operations; or as an alternative to the posts described above, we will protect the manhole against physical damage by equipment and will install close-fitting covers of plywood completely covering the manhole channel and shelf so that dirt or other material cannot enter the sewer.

Under the supervision of the Director of Public Works, we will install sand traps per Standard Plan S-20 in the first manhole upstream from any operating sewer in such manner that no dirt, sand, or other debris can be washed into, or enter the existing sewers in operation.

We will maintain in place, the sand traps and any channel covers until the final paving is in place and manhole frames have been adjusted to grade, and remove such sand traps and channel covers after final inspection by and in the presence of the Director of Public Works.

Date_____

Director of Public WorksPage 2

Also, we will seal the tops of all manholes subject to drainage infiltration in a watertight manner satisfactory to the Director of Public Works. Such watertight sealing will be maintained in effect until final paving of the immediate area.

It is our understanding that if this request is approved by the Director of Public Works, provisional house connection permits will be issued, and upon final acceptance of the sewers, these permits will be considered permanent.

Attached is a signed waiver from our sewer contractor approving the use of the sewer.

_____
Name of Subdivider

_____
Signature of Subdivider
or Authorized Representative

APPROVED: T. A. Tidemanson
Director of Public Works

By _____ Date _____
Subdivision Inspection
Construction Division

CR: mbw
Attachment - 1

HOUSE CONNECTION WAIVER
(CONTRACTORS LETTERHEAD)

Mr. T. A. Tidemanson
Director of Public Works
900 South Fremont Avenue
Alhambra, California 91803-1331

Date _____

ATTENTION: SUBDIVISION INSPECTION SECTION
CONSTRUCTION DIVISION

Private Contract No. _____

Tract or Parcel Map No. _____

Dear Sir:

I am the contractor for the above described sewer project, which is now under construction. I hereby approve the issuance by the County of Los Angeles of house connection permits to connect to the sewer prior to acceptance.

_____
Name of Contractor

_____
Address

By _____
Authorized Agent

SAMPLE HOUSE LATERAL EXTENSION LETTER

(Subdivider's Letterhead)

Date _____

Mr. T. A. Tidemanson, Direction of Public Works
900 South Fremont Avenue
Alhambra, California 91803

Attention: SUBDIVISION INSPECTION SECTION
CONSTRUCTION DIVISION

Dear Sir:

FOUR-INCH HOUSE LATERAL EXTENSIONS

P. C. NO. _____ TRACT NO. _____

VICINITY OF _____

We request permission to extend the sanitary sewer house laterals at the time the main line sewer is laid under Private Contract No. _____ to a point within five feet of the houses in the above numbered tract.

Our engineer will set stakes in each case at the point where the house lateral ends.

I understand that this work must be done concurrently with the main line construction.

No final hookups will be made to the house sewers until permits have been obtained from the Division of Building and Safety, and inspection and approval obtained on each such final hookup.
Our Contractor is _____, _____
(Name) (Address)
_____, California.

Lots No. _____, to _____ are to be connected in this manner.

Yours very truly,

_____
Subdivider

cc: (2)

SAMPLE 4-INCH HOUSE LATERAL EXTENSIONS LETTER
(Subdivider's Letterhead)

Date _____

Mr. T. A. Tidemanson
Director of Public Works
900 South Fremont Avenue
Alhambra, California 91803

Attention: SUBDIVISION INSPECTION SECTION
Construction Division

Dear Sir:

4-INCH HOUSE LATERAL EXTENSIONS
P. C. NO. _____ TRACT NO. _____
BUILDING DISTRICT OFFICE NO. _____

We request permission to extend the sanitary sewer house laterals laid under Private Contract No._____ to a point within five feet of the houses in the above numbered tract.

Our engineer will set stakes in each case at the point where the house lateral ends, except in those cases where the location of the plumbing outlet is clearly evident.

No final hookups will be made to the house sewers until permits have been obtained from the Division of Building and Safety, and inspection and approval have been obtained on each such final hookup.

We understand that an amount sufficient to cover the estimated cost of special inspection of the work must be deposited in trust with the Department of Public Works before work can be started.

Our Contractor is _____, _____
(Name) (Address)

_____, California.

Lots No. _____ to _____ are to be connected in this manner.

Yours very truly,

_____
Subdivider

Rev. (10/30/91)

Date _____

TO: (Assistant Deputy Director)
Land Development Division

FROM: (Assistant Deputy Director)
Construction Division

ATTENTION: ROAD, SEWER AND WATER SECTION

NOTICE OF COMPLETION - SANITARY SEWER

PROJECT _____ TR/PM NUMBER _____

JOB NUMBER _____ LOCATION _____

Final Inspection of the above-captioned Sanitary Sewer has been made. The work has been completed in accordance with the plans and specifications, and is ready for formal acceptance.

Approval Date _____ By _____, Las Virgenes M. W. District

Approval Date _____ By _____, County Sanitation District

Approval Date _____ By _____, Head Construction Inspector

REMARKS _____

_____

_____

This Job Number SHOULD/SHOULD NOT be closed.
Recommend this JOB/PORTION OF THE JOB be accepted for public use.

_____
Supervisor, Contract Construction
Construction Division

Approved By _____
Head, Subdivision Inspection
Construction Division

cc: Construction Division/Permit Office/Road Element
Head Construction Inspector
Sewer Maintenance Division
File

CR:sl/COMP-SS

Revised 10/91

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE: _____

TO: SUBDIVISION SECTION

FROM: ROAD/SEWER AND WATER SECTION

ACCEPTANCE OF A PORTION OF THE SANITARY SEWER IMPROVEMENTS, REDUCTION OF SECURITY FOR FAITHFUL PERFORMANCE GUARANTEE, FOR _____, PRIVATE CONTRACT NO. _____

On (date), _____% of the sanitary sewer improvements for _____ was completed in compliance with the plans and specifications and in a satisfactory manner. Therefore, the security deposited for the faithful performance guarantee of these improvements may be reduced by _____%, and the improvements shown on pages _____ of the plans be accepted for public use.

Please send copies of your acceptance letter to Water Works and Sewer Maintenance Division and Road, Sewer and Water Section.

FK:dbm
(FILE14)-6

cc: Sewer Maintenance
Sewer Plan Check
File

DEPARTMENT OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION

DATE _____

TO: Development Management Section

FROM: Road/Sewer and Water Section

ACCEPTANCE OF SANITARY SEWER IMPROVEMENTS, RELEASE OF SECURITY FOR FAITHFUL PERFORMANCE GUARANTEE FOR _____, PRIVATE CONTRACT NO. _____

On _____, the sanitary sewer improvements for_____ were completed in compliance with the plans and specifications and in a satisfactory manner. Therefore, the security deposited for the faithful performance guarantee of these improvements may be released, and the improvements accepted for public use.

Please send copies of your acceptance letter to Water Works and Sewer Maintenance Division and the Road, Sewer and Water Section.

SI:gp
FILE1/3

Rev. (10/30/91)

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

1540 ALCAZAR STREET
LOS ANGELES, CALIFORNIA 90033
Telephone: (213) 226-8111

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 4089
LOS ANGELES, CALIFORNIA 90051

August 27, 1987

IN REPLY PLEASE REFER TO FILE L-2
850.19

Honorable Board of Supervisors
County of Los Angeles
383 Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Supervisors:

ACCEPTANCE OF SANITARY SEWERS
PRIVATE CONTRACTS NOS. 10275, 10388 AND 10499--SD 5

RECOMMENDATION:

That your Board approve the work and accept for public use the sanitary sewers listed on Attachment "A" and indicated by the attached map.

The sanitary sewer project constructed under Private Contract numbers listed on Attachment "A" have been completed in compliance with the plans and specifications on file in this office and in a manner satisfactory to the Director of Public Works and have been offered for dedication.

Please forward one approved copy of this letter to this Department.

Respectfully submitted,

T. A. TIDEMANSON
Director of Public Works

SGI:dw
(SS1)22

Attach.

23-35 ✓

ATTACHMENT " A "
ACCEPTANCE OF SANITARY SEWERS

Private Contract No.	Vicinity	By
10275	Quartz Hill	Joseph D. Vilard
10388	Bouquet Canyon	Efiaim Prefferman
10499	Canyon Country	Ronald E. Wallace & Laszlo Toth & James W. Purcell

93-36 ✓

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
550 S. VERMONT AVENUE
LOS ANGELES, CALIFORNIA 90020
Telephone: (213) 738-2011

THOMAS A. TIDEMANSON, Director
HIAM BARMACK, Chief Deputy Director
JAMES L. EASTON, Chief Deputy Director
WYNN L. SMITH, Chief Deputy Director

ADDRESS ALL CORRESPONDENCE TO:
550 S. VERMONT AVENUE
LOS ANGELES, CALIFORNIA 90020

IN REPLY PLEASE
REFER TO FILE

June 9, 1986

The City Council
City of Carson
701 East Carson Street
Carson, CA 90749

Dear Council Members:

SANITARY SEWER IMPROVEMENTS
PRIVATE CONTRACT NO. 84-7
TRACT NO. 38130

The construction of sanitary sewers guaranteed by the improvement security listed below, and constructed under the subject Private Contract, has been completed in compliance with the plans and specifications and in a manner satisfactory to the City Engineer.

IT IS RECOMMENDED THAT YOUR COUNCIL:

1. Approve the work that has been completed and accept for public use the sanitary sewers shown on the attached map.

2. Exonerate the following listed surety bond:

Bond Number 2-318-786
Amount - $13,000
Surety - The Ohio Casualty Insurance Company
2600 East Nutwood
Fullerton, CA 92631
Principal - Wilcraft Development Incorporated and
Tom P. Colich and John M. Colich
21515 Hawthorne Boulevard, Suite 300
Torrance, CA 900572

After the sanitary sewers become public property by your formal acceptance, proper maintenance can be provided and the City Engineer can issue permits for additional connections and extensions of the main line sewer for the use of other residents of the City.

23-37

Please instruct the City Clerk to send a copy of the City Council action on this recommendation to the surety, principal, and Superintendent of Streets/City Engineer.

Very truly yours,

T. A. TIDEMANSON
Superintendent of Streets/
City Engineer

Donald Y. Milne
Deputy City Engineer

LG:sl 48

Attachment

cc: City Clerk (5 copies)
Director of Public Works

MPCEXN

Month 00, 1986

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Name
X
X

Gentlemen: Dear :

SANITARY SEWER IMPROVEMENTS
PRIVATE CONTRACT NO. 00000
TRACT PARCEL MAP NO. 00000

The construction of sanitary sewers guaranteed by the improvement security listed below, and constructed under the subject Private Contract, has been satisfactorily completed in compliance with the plans and specifications on file with this Department.

On behalf of the County of Los Angeles, we approved the work this date, accepted for public use the completed sanitary sewer improvements, and exonerated the following listed surety bond:

Bond Number x
Amount - $000,000
Surety - X

On behalf of the County of Los Angeles, we approved the work this date, accepted for public use the completed sanitary sewer improvements, and released the following security deposit:

Certificate of Deposit Number x
Letter of Credit Number x
Passbook Number x
Amount - $000,000
Financial Institution - X

On behalf of the County of Los Angeles, we approved the work this date, accepted for public use the completed sanitary sewer improvements, and hereby refund the following cash deposit:

Receipt Number x
Date of Deposit - x
Amount - $00,000

23-39

MPCEXN

On behalf of the County of Los Angeles, we approved the work this date, accepted for public use the completed sanitary sewer improvements, and reduced the following surety bond to $000,000:

Bond Number x
Original Amount - $000,000
Surety - X

On behalf of the County of Los Angeles, we approved the work this date, accepted for public use the completed sanitary sewer improvements, and reduced the following security deposit to $000,000:

Certificate of Deposit Number x
Letter of Credit Number x
Passbook Number x
Original Amount - $000,000
Financial Institution - X

Enclosed is your Certificate of Deposit. Letter of Credit. Savings Passbook.

A warrant for your cash deposit amount is being processed and will be forwarded to you in approximately one month.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

Carl L. Blum
Assistant Deputy Director
Land Development Division

LG:xxx 48

Enclosure

cc: Entity, if applies

CHAPTER 24

PRIVATE WASTE DISPOSAL SYSTEMS

DRAFT

A private waste disposal system is a system that is maintained by the owner on his property. This system generally consists of a septic tank and either seepage pits (formally cesspools) or leachfields and must meet the requirements of Title 28 of the Los Angeles County Code (Plumbing Code). This Code does not cover publicly maintained sewers. The requirements for publicly maintained sewers are in Chapter 46 of this Manual and are subject to Title 20, Divisions 2 and 3 of the County Code (Utilities Code). The Los Angeles County Department of Health Services has responsibility for issuing permits for private waste disposal systems and works very closely with Building and Safety Division in inspecting the installation. The Materials Engineering Division provides technical advice and reviewing services to the Building and Safety/Land Development Division. The Department of Health Services has their policies and procedures regarding the location and installation of private waste disposal systems for long-term disposal except in isolated areas. (See Chapter 50 of this Manual.) If a sanitary sewer system which outlets to an outlet agency truck line is located in the area, it must be utilized instead of a private waste disposal system.

I. Permitted Types of Waste

At the present time, normal domestic wastes from residential development are permitted by the Federal Environment Protection Agency (EPA).

Specifically prohibited by the EPA are wastes from automotive service stations or (any operation that discharges toxic material). Wastes consisting of hydrocarbons contain many toxic materials. Penalties can be issued to anyone discharging these types of wastes into the ground even in a residential system. (See specifies on Pages 24-5 through 24-8 other types of commercial and industrial developments may be permitted to discharge wastes into the ground. However, this is changing. Waste Management Division should be consulted regarding discharging wastes from these types of development at (818) 458-3539.

II. Approval of Acceptable Waste Discharge

Several agencies must approve waste disposal systems. It is the responsibility of a developer to demonstrate to the satisfaction of the County that a proposed private waste disposal system will not adversely affect public health and safety. The following must be considered by the responsible agencies:

A. Potential Site Instability

The Materials Engineers Division is often requested to comment on the effect of proposed private waste disposal system in hillside areas regarding stability and the potential for the effluent to reach the ground surface (daylighting). Consequently, the Geology and Geotechnical Development Review Sections commonly require hydrogeologic and/or geotechnical reports to make such evaluations and to substantiate a safe location during review of submitted grading or building plans. The Geology and the Geotechnical Engineering Development Review will review the submitted plans and reports.

Similar geotechnical reviews are provided for locations of disposal systems for proposed subdivisions to establish feasibility. (See Chapters 11, 14 and 16 of this Manual).

All reviews regarding private waste disposal systems are distributed to the Department of Health Services by way of the Building and Safety Division personnel as they are the responsible contact Division.

The developer is alerted at this time that a permit for Waste Discharge may be required from the California Water Resources Control Board - Division of Water Quality and/or

the California Regional Water Quality Control Board (see Item II below). These permits are required for facilities and activities that discharge waste into groundwater or surface waters. These permits apply to soil erosion and runoff, but not to point source discharges into surface waters. The requirements are in the California Permit Handbook and in Item II below. (See Items F & G, Page 50-5, Chapter 50 of this manual for obtaining a copy and obtain additional information.)

B. Potential Aquifer Contamination

Whenever an aquifer has been declared contaminated due to development utilizing private waste disposal systems by the California Regional Water Quality Control Board (WQCB), the procedures discussed below apply regarding the installation of a private waste disposal system in a groundwater recharge area that feeds these aquifers. At the present time aquifers at Acton, Agua Dulce, Gorman, Green Valley, Leona Valley, Mint Canyon, Newhall-Saugus-Valencia, Val Verde Community, Malibu, La Habra Heights, Crescenta Valley, Vallermo, Wrightwood, Little Rock moratorium area, etc., have been experiencing contamination. As an interim policy all developments within the watershed of these aquifers must be reviewed by the Los Angeles Regional Water Quality Control Board if the County feels that the proposed development may contribute to aquifer contamination. (See Chapter 50.) A clearance regarding possible aquifer contamination from this Board may be required if there is any doubt by the reviewer. The procedures for any development approval in the subject areas are as follows:

1. Major Land Divisions

A hydrogeology report is required for all developments installing a private waste disposal system. The following applies to major land divisions (including most tracts and some parcel maps) according to lot or parcel size:

a. Lot Size Greater Than Five Acres.

Private waste disposal systems for each lot greater than five acres in size may be utilized provided that the waste discharge does not create or threaten to create a condition of pollution, nuisance or contamination instability to the site or surrounding area. However, the conditions of tentative map approval must so state that a private waste disposal system is acceptable. The Department of Health Services and the Regional Water Quality Control Board have primary jurisdiction over issuing this condition of approval.

b. Lot Size Between One And Five Acres

Proposed lots between one and five acres in size may utilize private waste disposal systems provided that a sewer system is not practical at that time and a Report of Waste Discharge (RWD) form and supporting technical documents are submitted to and approved by the California Regional Water Quality Control Board. The hydrogeology report must give the results of a study which addresses cumulative and regional water quality impacts as well as effects on local ground water. The study must also demonstrate that the proposed private waste disposal system will not significantly contribute to nitrate, total dissolved solids, or other potentially serious conditions in the ground water. The study, shall address the following concerns:

1/ Development density and trends.

2/ The number and location of current and proposed water supply wells in the vicinity of the project.

3/ The quantity of sewage expected to be generated by the project.

4/ A geologic assessment of the site including depth to bedrock, type of bedrock (fractured, impermeable, etc.), type and depth of soil, and the results of percolation tests.

5/ The existing ground water quality and depth to ground water. Ground water samples must include well identification and description of overall condition of well and sanitary seals.

6/ The impact of the completed project on the quality of the ground water in the area, both individually and considering the cumulative effects of present and proposed projects in the vicinity.

7/ The provisions which will be made to connect the project to a possible future community sewer system.

This approval must be obtained prior to the approval of the Tentative Map. Board approvals to already approved tentative map conditions will require the resubmittal of the Tentative Map before a private waste disposal system will be permitted.

c. Lot Size Less than One Acre.

Private waste disposal systems are prohibited for lots less than one acre in size. A sewer system connected to a sewer outlet sewer agency trunk lines will be required. (See Chapter 23 of this Manual.)

2. Minor Land Divisions

Private waste disposal systems may be utilized subject to a hydrogeologic investigation only for lots greater than one acre in accordance with Item A above. However, as an exception, a private waste disposal system may be utilized for a lot split into two lots in which the new lots will be less than one acre in size provided that a sewer system is not practical to the satisfaction of the WQCB at that time and the RWD form and supporting technical documents are submitted to and approved by the WQCB. The contents of the report must meet the requirements presented in Item A.2 above.

3. Commercial, Industrial and R-3 Zoning Building Permits (Existing Land Divisions)

Private waste disposal systems may be utilized subject to a hydrogeologic investigation for this type of construction provided that a sewer system is not practical at that time and the RWD form and supporting technical documents are submitted to and approved by the WQCB. The contents of the report must meet the requirements presented in Item A.2 above.

Where waste water requirements are prescribed, owners of all approved development under this interim policy will have to monitor the quality of the ground water affected by their waste discharge and submit a Report of Waste Discharge (RWD) form periodically to the satisfaction of the WQCB.

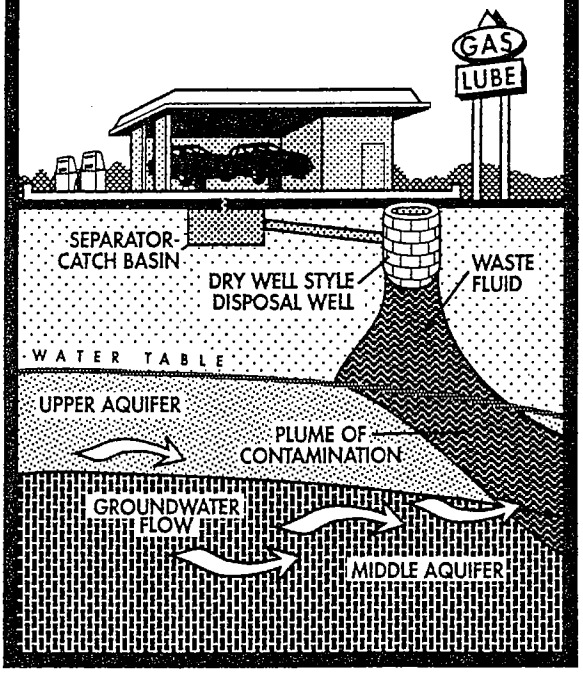
In order to obtain a waste discharge permit from the WQCB, a public hearing must be held to show that the granting of the permit will not adversely affect the area's water quality.

Public Workshops by the WQCB will be held regarding those specific areas of suspected ground water degradation due to the use of individual subsurface disposal systems. Public agencies, developers, residents, property owners and other interested parties will be encouraged to attend and present relevant evidence pertaining to the problem areas. It should be noted that more stringent restrictions may be imposed by local agencies such as this Department and the Health Department.

III. Maintenance Procedures

The Department of Health Services recommend that the procedures beginning on Page 24-9 be followed in maintaining a private waste disposal system.

Does your facility generate automotive service wastes?



WARNING:
Penalties can be issued!

Your facilities may now be in violation of the Safe Drinking Water Act, Clean Water Act, and also may be in violation of certain hazardous waste regulations.

These are some of the types of service bay businesses affected:

- Automotive Service Stations
- Tire Shops
- Quick Lubes
- Car Rental Shops
- Body Shops
- Truck Service Stations
- Muffler Shops
- Farm Maintenance Garages
- Automotive Dealerships
- Automobile Repair Shops
- School Bus Maintenance Barns
- Taxi Cab Maintenance Garages
- Government Vehicular Maintenance Shops
- Airport Hangar Operations

How do US Environmental Protection Agency regulations affect automotive service wastes?

Automotive service stations generate waste and wastewater during daily operations. Sometimes these wastes are disposed into shallow injection wells, such as septic system drainfields, dry wells, cesspools, or pits. In other cases these wastes are improperly disposed into separate storm drains. If these wastewaters are disposed into separate storm sewers they may endanger surface water such as streams, lakes and estuaries.

The Environmental Protection Agency (EPA) has conducted nationwide tests on wastewaters from automotive service industries. Typically they contain organic and inorganic chemicals in concentrations which exceed EPA's primary drinking water standards, established under the Safe Drinking Water Act. If these wastewaters are disposed into shallow wells they may endanger ground water that is or could be a source of drinking water.

EPA and state underground injection control programs are designed to protect underground sources of drinking water from contamination by injection wells.

EPA prohibits the injection of fluids that will endanger ground water that is or could be an underground source of drinking water. EPA also prohibits the discharge of wastewaters into separate storm sewers under the authority of the Clean Water Act.

Your facility may also be subject to regulation under the Resource Conservation and Recovery Act (RCRA), also known as the hazardous waste regulations.

A waste is considered hazardous if it contains toxic chemicals in excess of concentrations listed in the regulations. EPA has added 25 new chemicals to that list. One of these, benzene, is found in gasoline and oil. Solvents also contain many of these toxic chemicals.

If you discharge these wastes into a septic system drainfield, dry well, cesspool, pit or other injection well you may be operating an unauthorized hazardous waste disposal unit.

What should you do?

You must stop discharging automotive service waste to septic system drainfields, dry wells, cesspools, pits, or separate storm drains.

Stop using the well immediately for these wastes!

Facilities that utilize these types of disposal systems may currently be in violation of federal, state or local regulations.

FIRST:

Temporarily seal the floor drain(s) with a plug or other device unless the floor drain(s) are needed to comply with state or local laws. In that case, the wastewaters should not be allowed to enter the injection well(s) or separate storm sewers. You should then use one of the following plans for alternate disposal:

1. If a municipal wastewater treatment facility is available, and will accept your waste, you should route all waste to that facility.

2. If a municipal wastewater treatment facility is not available, or the discharge is prohibited, route your waste to a tank or container for proper accumulation and disposal.

SECOND:

Initiate a waste minimization program. This can reduce the costs, liabilities, and regulatory burdens of hazardous waste management, while enhancing community relations.

WASTE MINIMIZATION PROGRAM

The following are methods for reducing waste:

1. Petroleum-based fluids from vehicles, including used oil, transmission fluid and brake fluid, should be collected and recycled.

2. Absorbents should be used to clean up minor fluid leaks and spills which occur during routine vehicle maintenance.

3. Coolants from radiators should be collected and recycled.

4. Parts washing should be done in a self-contained, recirculating solvent sink.

5. Waste petroleum based fluids, absorbents for clean ups, coolants and spent solvent should each be collected and placed in a Department of Transportation (DOT) approved waste receptacle. These wastes should be recycled wherever possible. Waste disposal should be in accordance with applicable federal, state and local waste regulations.

THIRD:

Implement clean-up. Pressure wash any of the lines or piping leading to the well. Clean out liquids and solids from all lines and septic tanks, dry wells, cesspools, and pits, and dispose of the contents by acceptable methods for waste disposal. Fill the dry wells, cesspools and pits with an inert material and seal with asphalt or cement.

These wastes have the potential to contaminate YOUR community's ground water!

Will your business be affected?

1. Do you service automobiles, buses, trucks, tractors, airplanes, or similar machinery?

2. Do your service activities generate wastes such as gasoline, diesel fuel, waste oil, antifreeze, degreasers, brake fluids, transmission fluids, etc.?

3. Do you dispose of these wastes or wash waters into the ground via a septic system drainfield, dry well, cesspool, pit, or into a storm drain?

If you answered "yes" or "maybe" to any of these questions, read the *"What should you do?"* section in this brochure.

Who should you contact?

For additional assistance contact a representative of your trade association or your product supplier, regarding your service bay operations. You may need to contact your municipal sewerage agency regarding hook-ups to a municipal wastewater treatment facility. Also you may need to contact your state agency with responsibility for the Underground Injection Control (UIC) Program or EPA regional office covering your state.

U.S. EPA REGION 9
UIC Section (W-6-2)
75 Hawthorne Street
San Francisco, CA 94105
415-744-1838

Region 9 directly implements UIC programs for shallow injection wells in California, Arizona, Hawaii, American Samoa, and Palau.

Nevada Department of Conservation & Natural Resources - Division of Environmental Protection
123 West Nye Lane
Carson City, NV 89710
702-687-4670

The Commonwealth of the Northern Mariana Islands (CNMI)
- Division of Environmental Quality
670-234-6984

Guam Environmental Protection Agency
671-646-8863

EPA

UNDERGROUND INJECTION UIPC PRACTICES COUNCIL

PRINTED ON RECYCLED PAPER

The information in this document has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement X-817590-01-0 to the Underground Injection Practices Council (UIPC). It has been subjected to the Agency's peer and administrative review and has been approved for publication as an EPA document. Mention of trade names or commercial products does not constitute endorsement or recommendations for use.

RECOMMENDED METHODS for MAINTENANCE of SEPTIC TANK SEWAGE DISPOSAL SYSTEMS

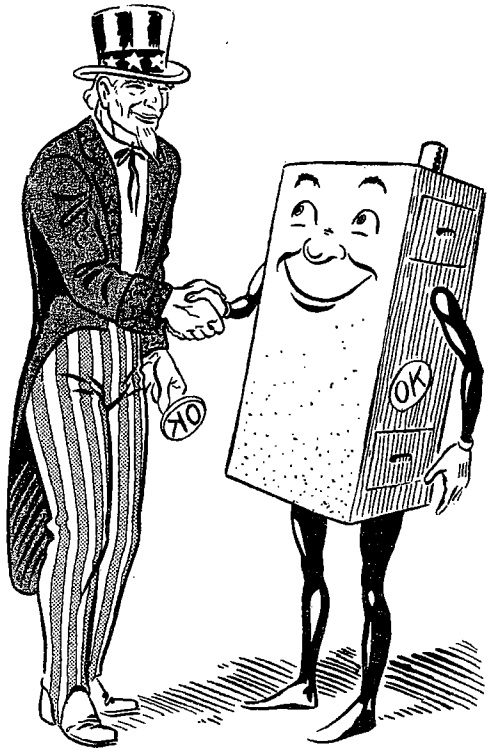
BUREAU of ENVIRONMENTAL SANITATION

COUNTY OF LOS ANGELES HEALTH DEPARTMENT

G. A. HEIDBREDER, M.D., M.P.H., HEALTH OFFICER

• 1967 24-9 •

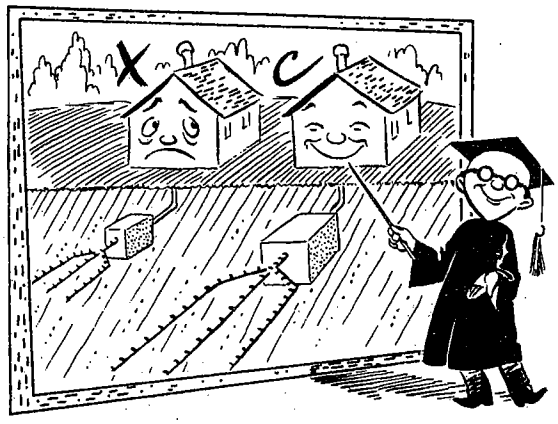
RECOMMENDED METHODS for MAINTENANCE of SEPTIC TANK SEWAGE DISPOSAL SYSTEMS



The septic tank method for disposal of sewage wastes has been accepted by most governmental agencies as being the preferred installation for individual sewage disposal systems in areas where sanitary sewers are not available.

The septic tank system is a reasonably efficient system when properly installed and maintained. However, the best possible installation should not be considered as a guarantee that the system will give long and efficient service.

The efficient operation of the system is dependent on many factors that must be considered and certain fundamental rules that must be followed; otherwise trouble can be expected.

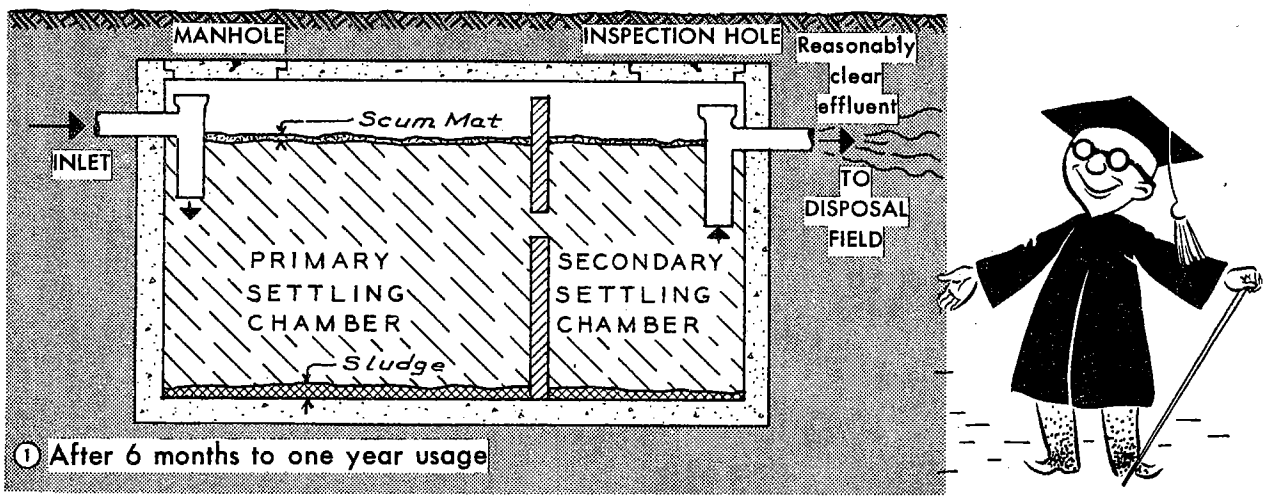


- The system must be of adequate size in both the septic tank and disposal area.
- The tank size is determined by the expected sewage loading from the building being served....
- The disposal area is determined by the soil conditions prevailing at the site....

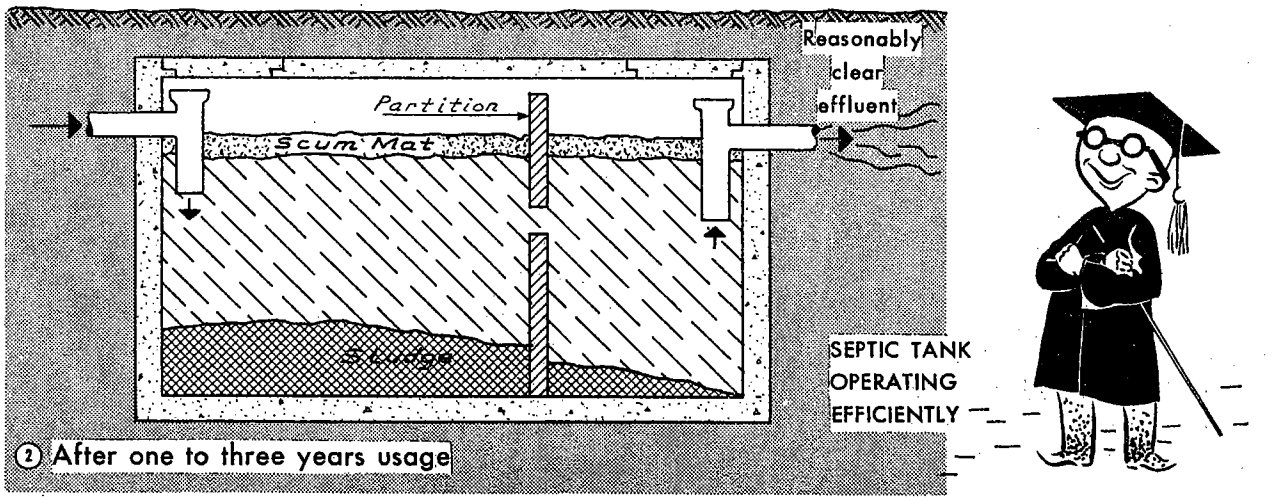
24 10

Maintenance. .This is very important. The septic tank is a water tight concrete or metal structure which is normally filled with sewage liquids to within one foot of the top of the tank.

The septic tank gives primary treatment to the sewage and prepares the liquids for final disposal into the subsurface soils.



The treatment consists of retention of solids in the tank with bacterial decomposition which produces sludge on the bottom of the tank and a floating mat of scum on the surface of the liquid, plus a reasonably clear liquid for underground disposal.



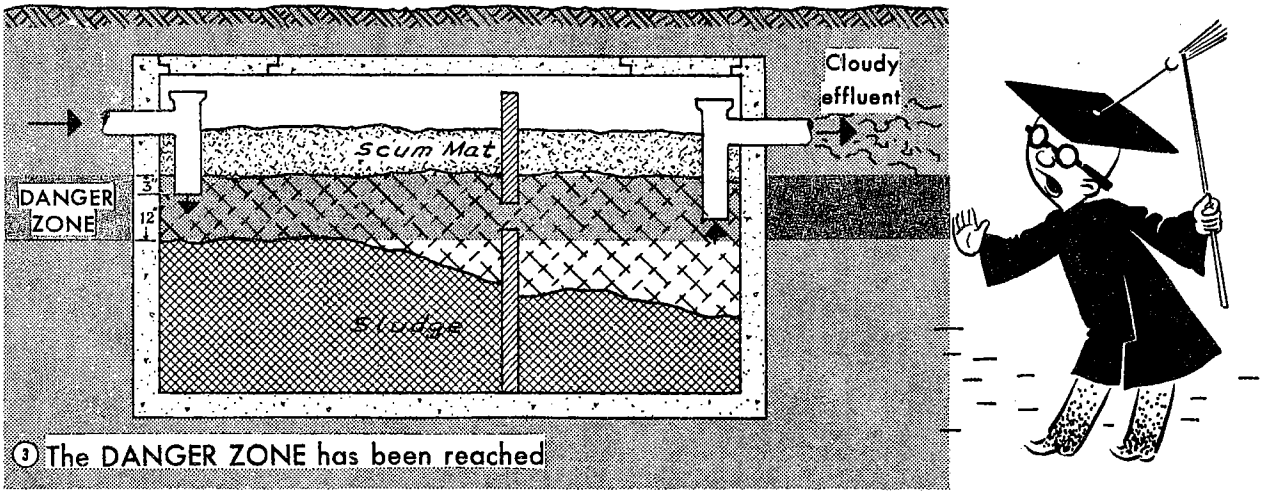
The condition to watch is the depth of the scum mat and of the sludge.

24 11

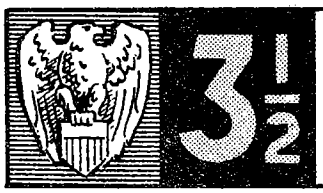
The recommended time for pumping is when either of the following things occur:

1. When the bottom of the scum mat reaches a point within 3 inches of the bottom of the inlet "T" or..

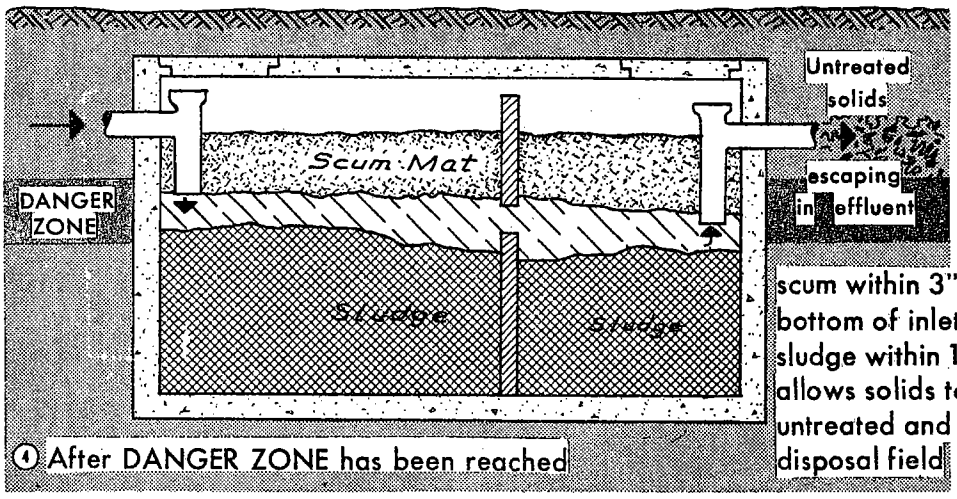
2. When the sludge on the bottom of the tank builds up to a point within one foot below the bottom of the inlet "T". (Note "Danger Zone" in Diagram 3).



③ The DANGER ZONE has been reached



The U. S. Public Health Service states that 95% of the homes served with septic tanks should be pumped on a 3½ year schedule.

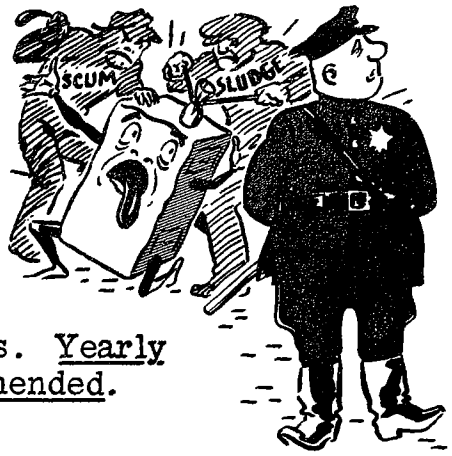


④ After DANGER ZONE has been reached

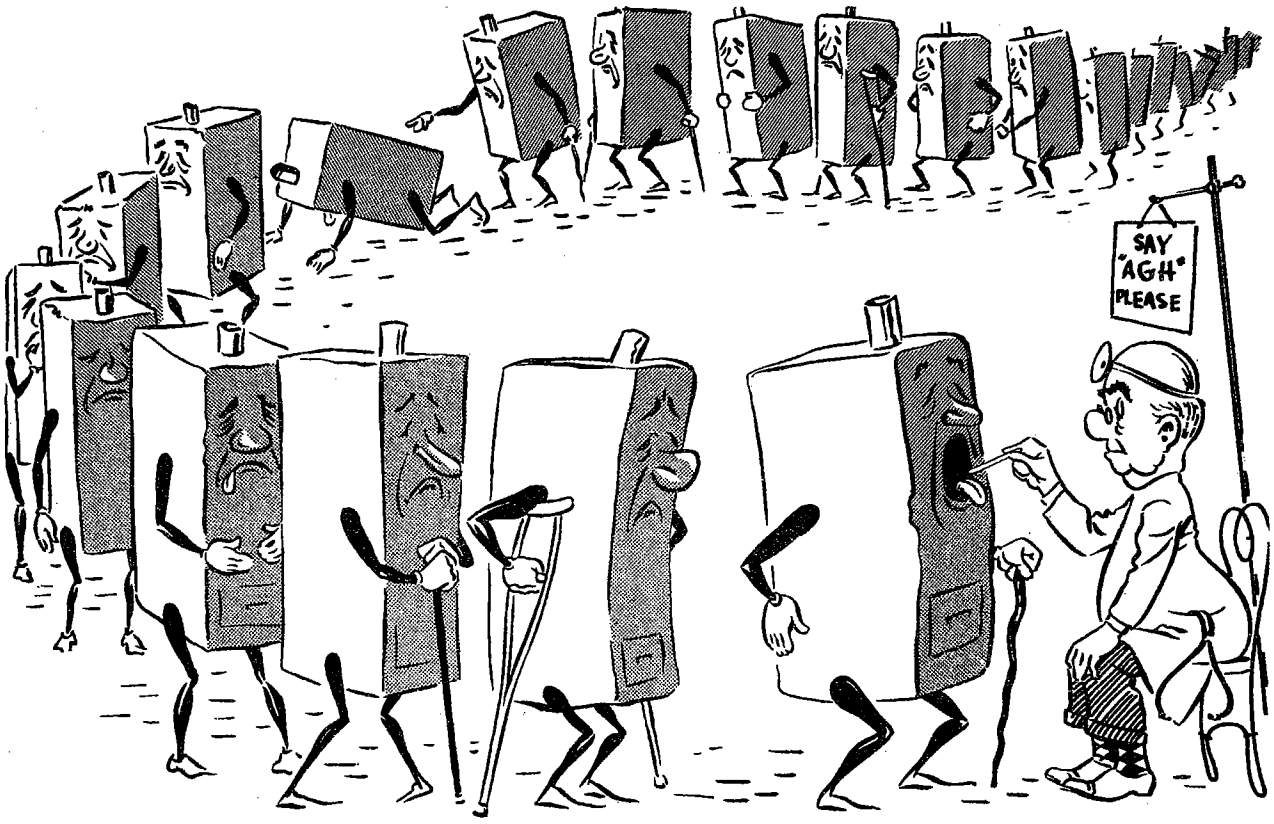
scum within 3" of bottom of inlet and sludge within 12" allows solids to pass untreated and plugs disposal field

24 12

When the sludge carries over into the disposal area, it usually seals the soils and necessitates the installation of additional disposal area, either seepage pits or drain fields. (See Diagram 4).



Failure to inspect the contents of the septic tank and pump out the sludge before it carries over into the disposal area appears to be a major difficulty in the operation of septic tank systems. Yearly inspection of the septic tank is strongly recommended.



A study made by the U. S. Public Health Service regarding septic tank disposal systems indicated that 50% of the tanks pumped were overloaded at the time of pumping.

Be Sure!

When your septic tank is pumped be sure that the pumper has drained the entire contents of the tank including the scum and sludge as well as the liquid matter....

14-13

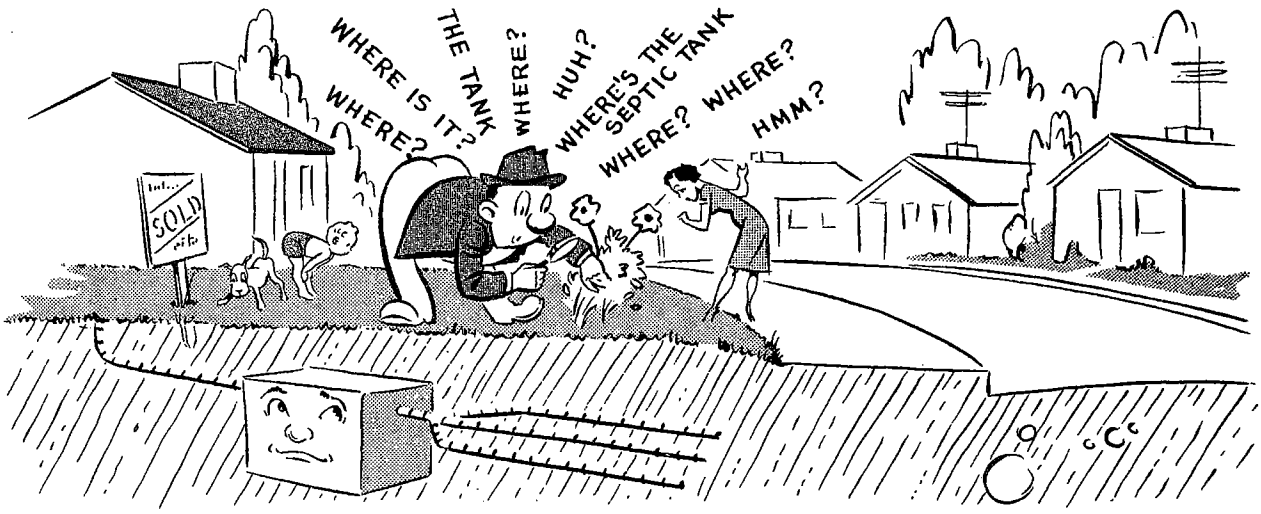
Remember!

It is your system, and with a proper installation and maintenance program, it will give you reasonable service. With an undersized or poorly maintained system you may expect trouble, additional costs, and insanitary conditions.

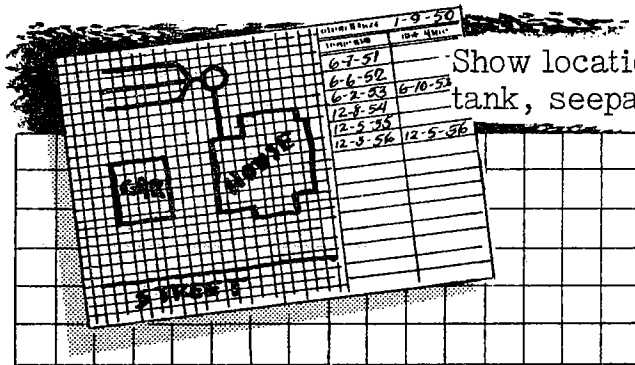
Starters or Septic Tank Cleaning and Treatment Aids

The septic tank bacterial action automatically begins after the sewage enters the tank. The United States Public Health Service estimates that approximately 1200 so-called starters or treatment aids are now offered for sale, none of which are approved, endorsed or disapproved by that agency. Don't rely on some unproven formula to solve the cleaning problem. PUMP THE TANK AND BE SURE!

24-14



We suggest use of chart below to indicate location of your septic tank system when you install (new houses) or pump (older houses).



Show location of buildings, streets, septic tank, seepage pits or drain fields.

Date Installed	
Date Inspected	Date Pumped

DRAFT

CHAPTER 25

WATER CODE ENFORCEMENT

The purpose of the Los Angeles County Water Code is to promote and obtain a reasonable minimum level of fire protection performance for water supply facilities constructed, replaced, extended or rehabilitated to serve new subdivisions and residential commercial and industrial improvements in the unincorporated area of Los Angeles County and Cities in which the Director of Public Works serves as city engineer. This Water Code requires the County Engineer to verify that any proposed development must be provided with a water system that meets minimum standards described in Chapters 48 (Water System Plans and Supporting Data) and Chapter 60 (Water Code) of this Manual. Water Service Connections from a water main to service a lot or parcel do not require County review and approval but are installed by the water purveyor on request.

All submittals of water distribution plans, fees, clearance requests, supporting information required to obtain final clearance of the subdivision map for recordation must be through the Land Development Processing Center of Land Development Division. At the time of acceptance of the required submitted materials, the applicant must pay initial review charges and complete the post card form A. (See instructions in Chapter 12.)

The following procedures must be followed in enforcing and satisfying conditions of tentative subdivision map approval to comply with water code requirements for obtaining final clearance of the subdivision map for recordation and for regulating water distribution systems in accordance with applicable Codes:

I. Document Submittals, Charges and Processing

The extent of review and document processing time varies with the complexity of the required water distribution system to be constructed to serve the proposed development and the completeness of all submitted plans documents. If the development is a new subdivision, the conditions of tentative map approval will state the water supply requirements. (See Chapter 11 of this Manual.) Otherwise the County Code covers the requirements as presented in this Manual. The processing procedures are different and depends upon the type of required water supply facilities as described below:

A. Existing Water System is Adequate

Where the water distribution system and publicly owned fire hydrants served by a certified water purveyor with the County of Los Angeles are existing and adequate for the proposed development, the verification of conditions of subdivision map approval procedure are as follows:

1. Collection of Deposit

An initial payment of $300 is required to cover the anticipated cost of processing documents and verification of conditions of tentative subdivision map approval.

2. Submittal of Required Documents

The following documents must be submitted:

a. A report from the County Forester and Fire Warden confirming that the existing water system and fire hydrants are adequate to meet the minimum fire flow and pressure requirements to provide adequate protection for the new development.

b. A statement of water service (Will Serve Letter) for the development issued by the Water Utility certified by the County of Los Angeles to provide water service. (See sample letter on page 25-12.) The statement must certify that the water purveyor has adequate source of water and ample storage for domestic and fire flow demands and accepts the responsibility to and will provide service to each lot of the proposed subdivision whenever required by the lot owner. The minimum permissible pressure of 35 psig must be provided at each service in accordance with section 20.16.070 of the County Code.

B. Fire Hydrants Require Upgrading or Additional Ones Installed

Where the existing water distribution system operated by a certified water purveyor is adequate but the County Forester and Fire Warden requires upgrading existing fire hydrants or installing new fire hydrants. The developer has the following options to satisfy the Fire Department's requirements and the verification of the subdivision conditions of approval are as follows:

1. Provide Proof that Existing Fire Hydrants Could Meet Required Fire Flows and Upgrading Unnecessary

In order for an existing fire hydrant to be considered adequate to meet required fire flows, the applicant can either:

a. Supply a certified fire flow test for the contested fire hydrant from a certified testing laboratory to prove that the existing fire hydrant does generate the required fire flow, or

b. Provide a certificate from the Water Purveyor stating that their records show that the contested fire hydrant does generate the required fire flow.

Then the procedure in Item A above can be followed.

2. Upgrade Existing and/or Install Additional Fire Hydrants Prior to Subdivision Recordation

Upgrading a fire hydrant as presented in this manual consists of replacing the fire hydrant head and/or increasing the lateral pipe size to generate the required fire flow. Installing a new fire hydrant which consists of installing a new fire hydrant head along with the required lateral piping sized to generate the required fire flow. Once all installation requirements required by Fire Department have been completed in either case, the applicant must obtain a letter from the water purveyor stating that all existing fire hydrants have been upgraded and/or new fire hydrants installed and tested to indicate that they generate the required flows. Once the computations of the test results have been reviewed and approved by the Water Code Enforcement Subunit, the procedure in Item A above can be followed.

3. Upgrade Existing Fire Hydrants and/or Install Additional Fire Hydrants After Subdivision Recordation

The applicant must submit a water distribution system plan for the required fire hydrants and follow the procedures in Item C below.

C. New Water Distribution System Installed and/or Old Water Distribution System Upgraded Within Existing Water Purveyor Service Area Boundary

Water service could be provided for the new subdivision by a certified water purveyor with the County of Los Angeles. However, a new water system and fire hydrants must either be installed and/or upgraded to satisfy current Water Code requirements. The procedures in this item are as follows:

1. Collection of Fees and Deposits

An initial payment of $600 is required to cover the cost to verify that the proposed water distribution plans are in conformance with the conditions of tentative map approval and the final map, supporting plans and other documents needed to determine conformance with subdivision map and Conditions of Tentative Map Approval for Subdivisions Map recordation. Additional deposit funds may be required if further verification time is required. A technical review of the plans will be required for conformance with the design and material requirements presented in Chapter 48 of this Manual. If the technical review is to be performed by Land Development Division, a separate plan check fee must be collected in accordance with the County Code before accepting revised water improvement plans and other documents for the second review. (See Water Code Enforcement Charges on Pages 25-14 and 25-15.)

Item 3 below covers plan review policies and procedures. Once initiated, additional charges may be required.

In addition a surcharge fee for LDMA may be required in accordance with Title 2 of the County Code for projects located within County unincorporated areas. The fee list from this Title 2 is on Page 9-4 of Chapter 9 of this Manual.

2. Submittal of Required Documents

The required initial submittals of plans and documents are listed in the form on Page 25-16.

Once all the required submittals have been submitted and accepted by the Land Development Processing Center, a Post Card Form A is completed. (See Chapter 12 of this Manual.) The submittals along with the post card are sent to the Water Code Enforcement Subunit of Road, Sewer and Water Section for a preliminary determination if a technical plan review of the water improvement plans by Land Development Division is required.

3. Water System Plan Review and Code Enforcement Procedures

The water distribution system technical plan review procedure, which is financed by a fee, consists of determining that the water system plans and supporting documents are sufficiently complete and feasible so that these plans and documents can be used to install a water supply system capable to meet County minimum requirements. The minimum design standards which are presented in Chapter 48 of this Manual and in guidelines which are presented in the check list on Pages 25-17 through 25-25. This technical review may be performed by the Water Purveyor certified by the County of Los Angeles if the Water Purveyor has a valid agreement with Land Development Division to perform this service. This agreement will only be made with those water purveyors who have a permanent registered Civil Engineer on its staff with sufficient experience and training to perform this technical review to the satisfaction of the County Engineer. All revisions must be performed and approved by that technical reviewer prior to submittal to Land Development Division for final review and approval by the County Engineer. The sample letter on Page 25-26 must be completed and accepted by the Department before the Water Purveyor can perform any technical plan review for the Department.

If Land Development Division performs the review, the water distribution plans will still have to have the approval of the Water Purveyor. However, the Department will then grant final approval of the plans as being technically correct and feasible by utilizing the water plan check list. This water plan check list will be attached to a set of marked plans showing requested revisions to be picked up by the applicant for correction at the Land Development Processing Center. Resubmittals which includes the water plan check list and the marked water plans are submitted in accordance with the same procedure as the original submittal to the Land Development Processing Center. When this submittal is received, and requested fees including additional deposits must be paid. Also during plan checking, the water distribution easements to the water purveyor, if required, must be identified and acknowledged. The form on Page 25-27 is for on-site easements. This form on Page 25-28 is for off-side easements. If required, the required form must be executed prior to the approval of the water improvement plan.

For all water distribution systems constructed as part of the improvements for a new subdivision, it is imperative that the road, storm drain, sewer, water and grading plans be coordinated by the developer and/or his/her design civil engineer and that there is adequate cross-referencing so that errors and omissions are avoided. The reviewers of each of these plans shall coordinate their reviews and comments so there will be consistency in all of the comments establishing project approval. If the water purveyor is responsible for the technical review of the plans, the water purveyor must participate in the coordination process.

Because certain design criteria is required for a water distribution system design, the following constraints are placed on the review of the water distribution system plan review:

a. The water source and storage for domestic and fire demands must be demonstrated by the Water Purveyor to be clearly feasible and/or existing and approved by the Director to be adequate.

b. The water distribution system plans will not be approved until

1. The grading plans have been approved.
2. The storm drain plans have been essentially approved.
3. The sewer plans have been essentially approved.
4. The road plans have been essentially approved.

When the water improvement plans meet minimum Code requirements, final approval of the water improvement plans is granted. Approval consists of placing a stamp image on five or more sets of plans with the signature of the Water Code Enforcement Subunit Head's signature.

The next procedure is presented in Item III "Final Clearance for Subdivision Recordation Purposes" on Page 25-9. This process including the determination of bond amounts can be performed in conjunction with the technical review of the water distribution plans under this Item.

D. New Development is Outside of Existing Water Service Area

Where the proposed development is located outside the service area of a certified water purveyor, one of the four procedures presented in this Item must be followed.

1. Annex Development to a Water Purveyor Service Area

If the proposed development can be annexed to the Service Area of a Certified Water Purveyor, the developer must comply with the water purveyor's annexation procedures including the payment of any required fees to that water purveyor. Once the site has been annexed, the procedure in Item C beginning on Page 25-2 may be followed.

2. Provide Private Water Well Supply for service on Each Lot

The following conditions apply for a subdivision where each lot or parcel is to have its individual water supply:

a. For Lots or Parcels Five Acres or Greater

There are no requirements for establishing a water supply in order to record the subdivision. However, a water supply will have to be established when a building permit application for structures and construction requiring a provision for water supply is submitted to Building

and Safety Division. The water supply system must be approved for adequacy by the Water Code Enforcement Subunit before a Building Permit is issued.

b. For Lots or Parcels Less than Five Acres

Each lot or parcel of a subdivision less than five acres in size will have to have an adequate and permanent source of water such as private water wells which produces an ample amount of water to meet the minimum standards for quality and quantity as stated in chapter 48 before subdivision approval. The procedures for obtaining approval of a water well to be a dependable water supply to serve the lot is in Item II on Page 25-8.

3. Establish a new Water Utility.

If the water system is to serve more than one lot and/or parcel in a subdivision, a water utility must be formed to provide that service. Usually a mutual water company is formed under the Public Utilities Code and the company must be registered with the Public Utilities Commission, Secretary of State and the County. Those water utilities with 200 or more service connections are regulated by the State Agencies and the County for fire protection purposes only. Those with less than 200 service connections are regulated by the County under State Code Provisions and Division 1 of Title 20 of the Los Angeles County Code. (See Chapter 60 of this Manual.)

To form a new Water Company such as a Mutual Water Company the following procedure must be followed:

a. Register with Secretary of State

Register the name of the proposed water company with the office of the Secretary of State located at 107 South Broadway, Room 4001, Los Angeles, California 90012. Telephone (213) 897-3062.

b. Obtain Permit from Applicable Department of Health Services

If the proposed water utility will provide 200 or more water services, obtain a permit from the State Department of Health Services, Office of Drinking Water, located at 1449 W. Temple Street, Rm. 201, Los Angeles, California 90026. Telephone (213) 620-4706. If the proposed number of water services is less than 200, a permit must be obtained from the County Department of Health Services, Water, Sewerage & Subdivision Control Program, located at 2525 Corporate Place, Monterey Park, California 91754. Telephone (213) 881-4147.

c. Register the Company with the County

Before a water utility can be registered with the County, the water utility must demonstrate to the satisfaction of the Director of Public Works in his capacity as County Engineer that it will provide a dependable water supply system to provide water in sufficient quantities to meet domestic and fire flow demands. Depending upon the water source availability and known underground conditions, one of the following three procedures must be followed before applying for a Certificate of Registration:

1/ Company to Receive Water From Another Water Purveyor.

If the proposed water utility is able and willing to enter into an agreement with a dependable water supplier (wholesaler or retailer) to obtain an adequate and permanent water supply, the Director will review the terms of the agreement. If the agreement is found satisfactory in which the water supplier will be able to supply water indefinitely to

the proposed water company in quantities sufficient to meet design criteria for the development, the proposed water purveyor can apply for certification by the County by following this procedure in Item X on Page 25-11 and submitting the required documents for water distribution system approval in Item C beginning on Page 25-2.

2/ Company to Receive Water From an Adequate Ground Water Source

If the proposed subdivision is located where a good ground water bearing area is known and acknowledged by the Department of Public Works and the California Department of Water Resources as being a dependable water source in both quantity and quality, a new water utility must be established to provide service to the proposed development. The adequacy of the water source for both quality and quantity for domestic and fire demands will have to be established by drilling water wells and testing them in accordance with Item II on Page 25-8. Once this water source is proven for adequacy, the proposed water purveyor can apply to be registered with the County in accordance with Item X on Page 25-11. In addition, the water distribution plans need to be submitted for review and approval in accordance with Item C beginning on Page 25-2.

3/ Company must Receive Water From An Undetermined and/or Declining Source of Water Supply

A proposed subdivision with less than 200 lots or parcels located in a ground water bearing area that is either undetermined or declining in both quantity and quality or there is in force a development moratorium issued by a governmental agency because of an exhausted ground water supply, such as Agua Dulce, some areas of Acton, Mint Canyon, Wrightwood, etc., will require a special study. Subdivisions containing 200 or more lots and/or parcels will require the State to verify and approve the Water Company. Once the water company is approved by the State, the developer can proceed with the procedures in Item C beginning on Page 25-2. For those water companies subject to County jurisdiction, a geohydrologic report of the ground water to be used by the proposed water company to serve the development must be prepared in accordance with the following procedure:

a/ Collection of Fees and Deposits for Hydrogeologic Report Approval

An minimum initial payment of $2,500 estimated by the County Engineer to cover anticipated costs is required when the required documents in Items b/ and c/ are submitted. This deposit is determined by the requirements of the County Code as summarized on Pages 25-14 and 25-15. Supplemental payments may be required after each review to cover anticipated costs or refunds of unused deposit money refunded once the project is completed. This payment covers the cost to review findings, conclusions and recommendations submitted in a geohydrologic report.

b/ Disclaimer Statement for Areas with Limited Water Sources

When submitting a geohydrologic report for review by the County, the owner of the development must execute and submit a disclaimer statement as shown on Page 25-29. The owner in his disclaimer must acknowledge that after the County reviews the geohydrologic report, the County may find that the information presented in the report has not sufficiently proven to the satisfaction of the Director that the proposed water source or supply is dependable for both quality and quantity to provide adequate water service to meet domestic and fire flow demands for the new development. If the County makes such a determination, the project account will be closed, no further checking will be permitted and the remaining unexpended funds in the deposit account returned.

However, if the geohydrologic report provide sufficient information to prove that domestic and fire flow demands for both quantity and quality can be met and a water distribution system is feasible, the developer can have his/her engineer proceed with the formation of a new water company in accordance with the procedure in Item X beginning on Page 25-11 and with the required submittal of water distribution system plans, specifications and other documents for the proposed development in accordance with the procedure in Item C beginning on Page 25-2.

c/ Geohydrologic Report Requirements

A geohydrologic report must be prepared by a registered geologist and a civil engineer qualified to perform such work. The report must contain a through study of the ground water that will serve as a water source for the water company. There must be a determination that (1) there is sufficient quantities of water to meet the water requirements for the proposed development, (2) the water quality will meet the minimum standards for public use and (3) a water distribution system with adequate storage can be constructed.

The report must contain the following information to satisfy the reports conclusions as applicable:

(1) Development Location.
(2) A description of the Topographic Setting.
(3) A description of the Climate.
(4) A description of the surface and ground water hydrology including source of ground water recharge.
(5) A presentation of the Geologic Setting.
(6) Substantiating data including soil and aquifer tests.
(7) Calculations of ground water storage capacity.
(8) Estimated long term annual aquifer yield.
(9) Water quality tests and analyses.
(10) Preliminary layout of the proposed water system for the area which include the amount of water supply and surface water storage under gravity flow.
(11) Water supply calculations and supporting data, well drilling logs and reports, well discharge tests, well draw down and recovery data, and well influence on water capacity of nearby wells demonstrating a dependable water source.
(12) Water demand for the proposed system including domestic and fire.
(13) Water well pumping equipment description and performance tests that demonstrate adequate flow will be available to meet storage requirements.
(14) Above ground water storage facilities, including volume, locations and areas served by gravity flow.
(15) Water System design metrology, criteria and conclusions as to system adequacy.
(16) Emergency Power Systems and Stand-by water wells description and capacity.
(17) Civil Engineer's Statement of responsibility.

All water well data in the geohydrologic report must be obtained in accordance with Item II below. Detailed minimum water system standards and specifications are presented in Chapter 48 in this Manual.

Five copies of the geohydrologic report must be submitted for review and approval. (See Chapter 49 of this Manual for content requirements and Chapter 61 for preparer's qualifications.) Three copies are deposited at the Land Development Processing Center to be distributed as follows: Two copies to the Water Code Enforcement Subunit and one copy to Materials Engineering Division. Two Copies are deposited at the County or State Department of Health Services by the applicant.

(See Item 3, b on Page 25-5 for which Department has jurisdiction.)

d/ Review and Approval of a Water Source Dependability for Areas with Limited Water Sources

The minimum investigation requirements and the required forms to be submitted to verify the existence of an adequate ground water source is presented in Chapter 48 of this Manual. Before the Water Code Enforcement Subunit can review the geohydrologic report, approvals from both the County Department of Health Services and the Materials Engineering Division of the Department of Public Works must be submitted to the subunit.

The Geology Investigations Subunit of Materials Engineering Division reviews the geohydrologic report to verify that the report's conclusions that there is sufficient ground water available to meet the required flows for the development served by the proposed water company is justified. The reviewers investigate ground water storage capacity and long term aquifer yield. (See Chapter 49 of this Manual for detailed requirements.) During the review, the consultants may be requested by this Division to supply them additional information to further justify the report's conclusions. Once satisfied, the Division will issue a review sheet approving the geohydrologic report conclusion applicable to the ground water source to the Water Code Enforcement Subunit.

The County Department of Health Services reviews the geohydrologic report to verify that the conclusions in the geohydrologic report regarding the quality of water produced from the aquifer will be acceptable for domestic use. The review includes such broad categories as physical, chemical, bacteriologic and radiological content of the water. The water must meet both potable (safe to drink) and palatable (pleasant to drink) standards which are established by the State and Federal Governments. Once satisfied that the reports conclusions regarding water quality have been adequately justified, the Department will submit a letter of approval regarding water quality to the Water Code Enforcement Subunit.

Once both approvals are received by the Water Code Enforcement Subunit, the final review by that Subunit can begin. The Water Code Enforcement Subunit reviews the geohydrologic report to verify that report's conclusions regarding the feasibility of a water distribution system has been justified. The review includes checking the water well pumping test data for well yield, well recovery rate data regarding aquifer yield depletion, booster pump data, and the proposed water distribution system storage capacity to determine the feasibility of meeting the domestic and fire flow demands. Once satisfied that the geohydrologic report meets all requirements, the Water Code Enforcement Subunit approves the geohydrologic report.

The water utility cannot be registered or a water distribution system reviewed and approved until the Director is satisfied that there is an adequate water supply. The water distribution system plans cannot be reviewed until the water utility certificate of registration application is submitted.

Once the water source has been approved as being adequate by all parties, the water utility can be registered in accordance with Item X on Page 25-11. Water improvement plans can be submitted in accordance with Item C beginning on Page 25-2.

II. Approval of Water Wells

In order to determine if an existing water well or a proposed water well will be adequate to serve

the needs of the proposed development, minimum criteria for the dependable yield of the water well must be established in accordance with the minimum standards in Chapter 48. The water well must have the capacity to provide for the peak or instantaneous demand flow which may occur several times during the day, as well as sufficient storage to supply the required fire flow.

The following items must be submitted in order to determine that the proposed water wells will be adequate for the proposed development including either individual lots or parcels within the subdivision or when forming a new water purveyor to serve the subdivision:

1. A copy of the Department of Health Services Permit for drilling the water well.
2. A copy of the well drillers report as required by the State Department of Water Resources.
3. Well tests establishing well yield.
4. Well tests establishing time of recovery.
5. An analysis that determines the effect of the new water well on the producing neighboring wells.
6. Water analysis that determine chemical and bacteriological content.
   Sample forms of the above data are shown in Chapter 48 of this Manual.

The procedures and minimum design standards and required forms to obtain this approval are presented in Chapter 48 of this Manual. The County will be reimbursed for the time spent reviewing the required documents from the deposit fund. If there are insufficient funds to pay for this review, no review will proceed until additional funds are deposited into the deposit account.

III. Final Clearance for Subdivision Recordation Purposes

A final clearance is issued by the Water Subunit in accordance with the procedures in Chapter 12 of this Manual. These clearance procedures are financed utilizing deposited funds.

In making a determination that all the requirements for final map clearance has been satisfied, the form on Pages 25-30 and 25-31 is utilized by the reviewer. The results of the review are reported by using the appropriate non-approval or approval from in Chapter 12. The completed form used by the reviewer is filed in the Water File. The forms from Chapter 12 are distributed in accordance with the instructions in that Chapter. Clearance of the subdivision map occurs when either of the following three items have been completed and the water purveyor agrees to accept, operate and maintain the water distribution system:

A. The water purveyor states that existing water system is adequate to serve the subdivision in the statement of Water Service form on Page 25-12.

B. There will be an execution of an agreement to install a water system along with a bond submittal guaranteeing completion. The sample letter agreement is on Page 25-13. The procedure detailing the obligation of the developer is described in Chapter 12. The procedure for determining the bond amount is described in the form on Pages 25-32 and 25-33. The administration of and copies of the bonds and agreements are presented in Chapter 13 of this Manual.

C. The construction of the water improvement system has been completed in accordance with the Tentative Subdivision Map Approval requirements described in this Chapter and in Chapter 11 of this Manual.

IV. Resubmittals

Additional information and revised plans must be submitted in the same manner that the original information was submitted. (See Item I beginning on Page 25-1.) It will be of great assistance in processing if the name of reviewer is noted on submitted card. It is very important that work being reviewed by a private consultant be noted on the postcard and that the counter personnel are

advised. For further information, contact the program coordinator at (818) 458-4930.

V. Permits from Other Agencies

Before a construction permit can be issued, permits from State and Federal agencies may be required. The most common permits are described in Chapters 14 and 50 of this Manual and elsewhere in this Manual.

VI. Water Main Construction

Construction inspection of the Water Distribution System is the responsibility of the water utility. If the water utility is one of the County Waterworks Districts, construction inspection is performed by the Subdivision Inspection Section of Construction Division. However, the Water Code Enforcement Subunit still has a basic inspection responsibility, which consists of verifying that the fire hydrants have been placed in accordance with the Fire Department's regulations and that the fire hydrants produce the required fire flow. The inspection reports as shown on Page 25-34 and the fire flow test computations are shown on Page 25-35 must be submitted for review and approval by the Water Code Enforcement Subunit. It should be noted that the fire flow tests must be performed by the Fire Department or the water utility. Once the new Water System has been installed, completed, and accepted for operation and maintenance by the water purveyor, the water purveyor then notifies the Water Code Enforcement Subunit that the improvement has been partially or totally accepted and certified by them.

Upon receiving this inspection notice, the Water Code Enforcement Subunit verifies that County requirements have been met and issues a bond release letter to the Bond Exoneration Subunit of Development Management Section. A sample of partial bond release letter is shown on page 25-36 and a sample letter for full bond release of water distribution system is shown on Page 25-37.

VII. Bond Exoneration

If a bond has been placed to guarantee construction of the water main as part of a subdivision recordation, the bond now can be exonerated. (See Chapter 13 of this Manual.) The exoneration consists of sending a letter to the developer with a copy to the surety company, plus a copy to the water purveyor. (See sample letter on Pages 25-38 and 25-39.) This completes this part of the water enforcement.

VIII. Single Lot Development

Whenever a single lot development requires an extension of water mains to be installed to provide water service to the lot from an existing water system, approval of this extension must be obtained from the Water Code Enforcement Subunit. This water main extension design must be shown on a set of plans in accordance the requirements of the Water Code as presented in Chapter 48 of this Manual.

Before a building permit can be issued by Building and Safety Division in accordance with Section 307 of Title 26 of the County Code, the water system plans must be processed in accordance with Item 1 beginning on Page 25-1 and receive the approval by both the Forester and Fire Warden and the Water Code Enforcement Subunit. (See Section 20.08.070 of the County Code and Chapter 60 of this Manual.)

Whenever a single lot is developed in an area where water service is inadequate or unavailable and cannot meet the requirements of the Foster and Fire Warden, a "Declaration of Covenant" form must be completed and executed by the owner or developer and recorded by the County Recorder prior to issuing a building permit. This is done to obtain a building permit and substitutes the certificate of water availability in areas where adequate water service is unavailable or inadequate. (See Section 20.08.080 of Title 20 of the County Code.) The owner of the property enters into

an agreement with the County of Los Angeles agreeing to install a water tank, if required by the fire department, and agreeing to connect and to pay a proportionate share of costs incurred in the construction of an adequate Water system when one become reasonably available. The process for filing a covenant is on page 25-40.

The covenant form, developed by the Forester and Fire Warden, can be obtained from any Building and Safety District Offices or from the Forester and Fire Warden (A copy of this form is on Page 25-41.). The original recorded covenant is then sent to the Water Code Subunit for enforcement. Upon completion of a reliable water system to serve that lot which satisfies the Foster and Fire Warden requirements, the affected property owners may obtain a covenant release by requesting the fire department to write a letter to the Water Code Subunit to that effect. The Water Code Subunit then issues a release letter. A sample of a "Release of Covenant" letter and a certificate of notarization are shown on Pages 25-42 and 25-43. This letter after being notarized is sent to the current property owner who in turn records it with the County Recorder for final release of the covenant.

IX. Road Excavation Permit Review

Whenever a road excavation permit is issued by the Department of Public Works that involves the extension, replacement, or relocation of water main, the Water Code Enforcement Subunit must be informed by the Permits and Utilities Section of Construction Division by having a copy of the permit application sent to the Water Code Enforcement Subunit. The Road Excavation Permit cannot be issued until the provisions of the Water Code are satisfied. The applicant must submit a set of plans to the Land Development Processing center in accordance with the procedures in Item I beginning on Page 25-1. The review of these permits, in conjunction with the Forester and Fire Warden review, verifies water pipe sizing for fire flows and fire hydrant locations. This review also provides a means of confirming the registration status of water utilities engaged in water main construction. Permits cannot be issued by the Department to a utility if it is not registered or not authorized by the County to engage in such construction. Refer to water utility certificate of registration procedure in Item X below.

X. Water Utility Certificate of Registration Process

Water utility certificate of registration must be received and processed by the Water Code Enforcement Subunit. The fee for processing this application is $210. The application form on Pages 25-44 through 25-46 must be completed in triplicate by the applicant in accordance with the instructions on page 25-47. One copy of the State Permit issued to the water utility must be attached to the application along with the fee and a map showing the water utility service boundary. Once the application is found to be in order, it is approved by the Water Code Enforcement Subunit Head. One copy is returned to the applicant. Another copy is kept in the Unit Files and the last copy is sent to the Forester and Fire Warden.

Whenever there is a change of water utility service boundaries, either through annexation of a subdivision or lot or renewal of a certificate of registration, the water utility boundary map must be updated. The cost of this service shall be charged to the subdivision or lot for the final map verification process or to the fee charged for the approval for the certificate of registration when there is no subdivision or lot approval involved.

The Certificate of Registration permits the water utility to design and construct its own water system under the provisions of the Water Code. Within 30 days after any change of the persons responsibly in charge of the water utility, it shall so notify the Water Code Subunit in writing. The water utility shall renew the certificate of registration every five years. If the water utility should violate the Water Code provision, the Water Appeals Board has the authority to revoke the Certificate of Registration. (See Chapter 60 of this Manual.)

SAMPLE

STATEMENT OF WATER SERVICE TO NEW SUBDIVISIONS
For Existing and Adequate Water Distribution System

(Use on Water Company Letterhead)

Date_____

Director of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91803-1331

Attention: Land Development Division
Water Code Enforcement Subunit

STATEMENT OF WATER SERVICE FOR TRACT/PARCEL MAP NO._____

This is to certify that the existing water distribution system of the (Water Purveyor's Name) is adequate to provide water service for each lot of the proposed subdivision with a minimum normal operating pressures of 35 psig as required in Chapter 20.16 of Title 20 of the Los Angeles County Code (Water Code.) This includes meeting minimum domestic flow requirements as required by Section 20.16.070 and minimum fire flow and fire hydrant requirements as required by Section 20.16.060.

_____
(Signature of Person in Responsible Charge)

_____
(Title)

S A M P L E

STATEMENT OF WATER SERVICE TO NEW SUBDIVISIONS
For New or Upgraded Water Distribution Systems

(Use on Water Company Letterhead, If Possible)

Date_____

Director of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91803-1331

Attention: Land Development Division
Water Code Enforecment Subunit

STATEMENT OF WATER SERVICE FOR TRACT/PARCEL MAP NO._____

This is to certify that the proposed water system to serve each lot of the above referenced Tract/Parcel Map will be operated by:

_____
(Name of Water Purveyor)

_____
(address)

_____, _____ _____
(City) (State) (zip)

The proposed water distribution system for the above referenced subdivision will be adequate during normal operating condition to meet the requirements for the water system of this subdivision as provided in Chapter 20.16 of Title 20 of the Los Angeles County Code (Water Code) and as shown on the plans and specifications approved by the Department of Public Works. This includes meeting minimum domestic flow requirements as required by Section 20.16.070 and minimum fire flow and fire hydrant requirements as required by Section 20.16.060.

_____
(Signature of Person in Responsible Charge)

_____
(Title)

(If this statement is prepared on the water purveyor's letterhead paper, first paragraph may be modified accordingly: ".....will be operated by this water purveyor," or such other title by which the purveyor is addressed.

WATER CODE ENFORCEMENT CHARGES

I. Verification For Final Subdivision Map Compliance

A deposit is required to cover the actual costs of reviewing document, verifying fire requirements, reports, security improvements and conducting field investigations, as required by Section 21.36.010 of Title 21 and Section 20.08.060, of Title 20, both, of the Los Angeles County Code.

The Water Code Enforcement Subunit has determined that the following amounts should cover the cost of the above listed services:

No Water Plans Required	$300.00
Water Plan Required	600.00

Additional funds may be required to cover County costs. Any surplus funds are to be returned to the applicant after the completion of the verification process.

II. Verification of Availability of Providing Adequate Water Supply

This service is part of the field investigations, as required by Sections 21.36.010 and 20.08.060 in which a dependable source of water supply is required to establish a new water utility to serve new subdivisions. The Water Code Enforcement Subunit has determined that to perform investigations to verify adequate water supplies which includes review and approval of a geohydrologic study, an initial deposit of $2,500 would be required. Once the water source has been evaluated and approved, development plans must be submitted and the charges in Items I and III collected as applicable.

III. Issuance of Certification of Water Utility Registration

A fee of $210.00 will be charged for processing a certificate of registration or a water utility authorization. In addition, prescribed fees will be charged for permits required by the Water Code as presented in this page. (Section 20.08.090.)

IV. Technical Plan Review Fees

If it is determined by the Water Code Enforcement Subunit that a technical plan review is required, the following fees will be collected for this service (Section 20.08.060):

A. Plan Review for Water Mains

Lineal Feet of Water Mains and/or Fire Hydrant Laterals	Fee
1 to 150	$ 270
151 to 500	$ 750
501 to 1,000	$1,350
1,001 to 2,000	$1,570
2,001 to 3,000	$1,800
3,001 to 4,000	$2,040
4,001 to 5,000	$2,250

For each 1,000 feet of water main, or fractional part thereof, in excess of 5,000 feet, an additional $175 shall be added.

B. Plan Reviews for Booster Pump Station, Reservoirs, Etc.

To review the plans and specifications for the construction of water system facilities other than for water mains, but including pumping plants and reservoirs, the charge shall be $1,200 plus a charge of 0.15 percentage of the estimated construction cost thereof; provided, however, that such a charge shall not be applied to a public water district or other local agency where such a charge is prohibited by the provisions of Section 53091 of the Government Code.

C. Plan Revisions

If any portion of the plans, after having been reviewed, are revised, the subdivider shall pay a fee of $175 for each 1,000 feet of water main affected.

VI. Filing Fee For Appeals to Water Appeals Board

A fee of $210.00 will be charged for each case filed with the Water Appeals Board to be processed according to Chapter 27 of this Manual. (Section 20.12.091)

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

WATER PLAN SUBMITTAL

Tract/Parcel Map No._____ Date _____

Engineer_____ [ ] Plan Accepted

Telephone No._____ [ ] Plan Rejected

In order to expedite and properly process your submittal, the items listed below are necessary. It is our policy to review only complete submittals.

[ ] 1. Engineer's cost estimate for the construction of the water system for bond purposes. (See Page 25-27 and 25-28.)

[ ] 2. A minimum deposit of $600.

[ ] 3. L.D.M.A. Fees if in County Unincorporated Territory. (See Page 9-3 of Chapter 9.)

[ ] 4. Two (2) sets of Water plans with signature stamp or seal and license expiration date of a licensed Professional Engineer and approved by the water purveyor.

[ ] 5. Statement of water service from the water purveyor. (See Sample on Page 25-13.)

[ ] 6. Fire Department requirements for fire hydrant locations and fire flow.

[ ] 7. Water System hydraulic calculations.

[ ] 8. One set each of all related supporting plans/map:

- [ ] a. Final subdivision map
- [ ] b. Grading Plan
- [ ] c. Storm Drain Plan
- [ ] d. Street Plan
- [ ] e. Sewer Plan

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
WATER CODE ENFORCEMENT SUBUNIT

WATER DISTRIBUTION PLAN CHECK LIST

Tract/Parcel Map No._____ Date _____

Engineer_____ Plan is Approved ( )

Telephone No._____ Plan is Disapproved ( )

Water Purveyor_____

Telephone No._____

Comply with the following checked items:

A. Water Plan Documentation

[ ] 1. Submit Hydraulic net work calculations that show that the system will meet the fire flow and domestic flow and pressure requirements.

[ ] 2. Submit revised Cost Estimate for Bond Purposes (See Pages 25-32 and 33.)

[ ] 3. Submit Plan Check Fee Amount of $ _____. Submit calculations based on Items IV A, B and C on Pages 25-14 and 25-15.

[ ] 4. Obtain documentation from the Water Purveyor that the Water Purveyor can provide sufficient water storage for 2 times the sum of the daily water flow to meet the domestic demand if metered or 4 times if unmetered service plus the fire demand as established by the Forester and Fire Warden.

B. Water Plan Layout

1. General

[ ] a. All work shall be in pencil or ink to be prepared on sheets that can provide clear prints meeting the requirements of the Water Purveyor. Maximum overall dimensions are 24" x 36". Margins shall be a minimum of 1/2-inch.

[ ] b. All sheets of the Plans shall have an approved signature block for the water purveyor approval along with the address and telephone number of the Water Purveyor. The Block must show the title of the person approving the plans.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

[ ] c. The approval Blocks shall have the design Civil Engineer's signature, stamp or seal and registration expiration date placed on each sheet. In addition, the cover sheet must also contain his/her address and telephone number. (See Chapter 61 for responsible charge criteria.)

2. TITLE SHEET

The title sheet shall be the first sheet in the set and shall contain:

[ ] a. The Subdivision Number and/or project name.

[ ] b. An index map with an overall plan at a scale of approximately 1" = 300' showing general layout of water lines, named streets, tract boundaries, a sheet index, north arrow, and other pertinent information.

[ ] c. A vicinity map with a scale of 1" = 1,000' or such other scale as may be appropriate showing major streets outside of tract boundaries, north arrow and shaded area identified as project site.

[ ] d. The bench mark used for the project shall be graphically shown on the first sheet and the elevations, descriptions, locations, etc., spelled out in Chapter 36 of this Manual.

[ ] 3. Plans with separate Plan and Profile Views

The design engineer and/or water purveyor have the option to prepare plans with both plan and profile views. The following required information is best presented in the noted views:

[ ] a. Plan View

Shall show locations of water mains, service line locations (As-built Plans, See Item B, 6), and other potentially interfering structures in relation to survey lines and stations. Included shall be flushouts, combination air release and vacuum valves, main line valves, fire hydrants, thrust blocks, fittings, etc. in accordance with Chapter 48 of this Manual. Provide all data for horizontal deflections or curves and indicate limits of any easements. Any known pad locations which are adjacent to an easement should be shown as well as fences, walls, trees, etc., which are within any easements. Show and label, on the Plans, the size and ownership of all existing and/or proposed underground utilities that cross or parallel the water line. Facilities of other water purveyor's mains shall be included on the Plans where they exist. Note specific corrections on the check prints.

[ ] b. Profile View

Profile views shall show the grades, grade changes, including any vertical curve data, sizes, and types of pipe and the distances involved with pipe types or sizes. Any special encasement required to carry loads on the pipe shall also be shown. Valves, bends, and other structures or appurtenant features listed for the Plans shall also be shown on the profile. Show elevations to 0.01-foot at water line outside top of pipe. Any existing or purposed pipeline two inches or more in diameter which crosses the water line and especially waste water, gas, telephone, power, storm drains, television, and oil lines shall be shown and labeled on the profile. The grades of major paralleling lines within five feet of the water line shall be shown as dashed. Otherwise this shall be shown on the plan view with depths indicated instead of grades.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

[ ] 4. Both Views

All Plan and profile sheets shall contain:

[ ] a. A graphic (bar) scale, horizontal as well as vertical, illustrated such that a true representation is produced when the Plans are reduced in size shall be shown on a profile view.

[ ] b. The horizontal scale and if necessary, the vertical scale shall be shown on the plans.

[ ] 5. PROCEDURE FOR APPROVAL

Approval for Water Plans consists of two phases. Each phase consists of a series of requirements which must be met before final acceptance.

[ ] a. Requirements for authorization of construction from the Water Purveyor.

[ ] b. Requirements from Title, 20, Division 1 "Water" of the Los Angeles County Code.

C. DETAILED PLAN CHECK ITEMS

[ ] 1. Place the title block on each sheet (See B, 1, b on Page 25-18.)

[ ] 2. Place note regarding CALOSHA safety orders on each sheet where the excavation exceeds five (5) feet in depth.

[ ] 3. Show the Underground Service Alert Telephone Number (800) 422-4133.

[ ] 4. Provide a note that requires a service connection to be provided for each lot or parcel unless exempted specifically by the final subdivision map and the service locations are to be shown on the as-built plan.

[ ] 5. Complete Legend

[ ] a. Add the symbol for an air and vacuum release assembly.

[ ] b. Add the symbols for maximum static and minimum dynamic pressures, finished ground surface elevation.

[ ] 6. Verify that the pipe lengths are labeled accurately on each sheet of the water plans.

[ ] 7. Complete Statistics section.

[ ] a. Fire flow rate and duration do not agree with those established by the Fire Department. Also, show separate off-site, public and on-site, private fire flow requirements.

[ ] b. Show or revise the existing maximum static/minimum dynamic pressure at the point of connection, and for hydraulic calculations.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

[ ] c. Call out each static pressure zone and show the zone elevation (i.e., 2,555' zone) in accordance with General Construction Note No. 24.

[ ] d. Verify that the total estimated pipe length shown on the plans are correct on the list of materials.

[ ] 8. Verify that all fitting designations on the plans are on the list of materials.

[ ] 9. Show the North arrow, and scale on all plan views and bar scale on all profile views.

[ ] 10. Show and label tract boundaries.

[ ] 11. Show lot lines, lot frontage dimensions and all lot numbers.

[ ] 12. Verify location and number of fire hydrants from the latest final subdivision map marked by the Fire Department plan.

[ ] 13. Verify sewer and sewer manhole locations with the sewer plans. All existing and proposed main line sewer elevations within 10 feet from a water main must be shown.

[ ] 14. The submitted fire hydrant locations appear to be infeasible as noted. Please obtain revised fire hydrant locations on latest copy of the final subdivision map.

[ ] 15. Verify high and low points for possible Air Release Valves (ARV) and flushout locations. Obtain elevations from the street or grading plans.

[ ] 16. Verify that fire hydrants, flushouts, ARV's and services will not interfere with existing street lights and power poles.

[ ] 17. Label street centerlines.

[ ] 18. Show, dimension and label entire street right-of-way and improvements within the right-of-way. This includes street pavement, sidewalks, curbs and gutters. Check that the street dimension shows curb face to back of sidewalk dimension, centerline dimension, and parkway dimension.

[ ] 19. Show the street names on each plan view. One or more street names are missing on sheets _____.

[ ] 20. Water lines must be located at least 10 feet O.D. to O.D. from parallel sanitary sewer lines without encasing the sewer lines in accordance with the Health Code. Crossing sewer lines must also be encased. Existing main line sanitary sewers within 10 feet of the water main must be encased as noted on Sheets _____

[ ] 21. Show barricades on flushouts, ARV's, and fire hydrants where unprotected per County Engineer Standard plan W-14 or equal on sheets _____.

[ ] 22. If stationing is used, call out stationing at intersections, match lines, cul-de-sacs, and fire hydrants.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

[ ] 23. Show the location of all sewer laterals that may interfere with the water lines.

[ ] 24. Show the location of all storm drains. Verify from storm drain plans, street plans, and/or grading plans. Notify the Water Code Enforcement Subunit of any discrepancies between the referenced plans and submit approved revisions of any affected plans.

[ ] 25. Show the location of all existing underground utilities including sanitary sewers, storm drains, gas, oil, cable TV, and telephone. If they are not shown on an existing major street, have the Developer's Engineer make provisions for placing them underground.

[ ] 26. Show proposed and existing water mains and its size per the legend with the Water Purveyor's name. For example: "Existing 12-inch A.C. water main per (Name of Water Purveyor) ".

[ ] 27. Provide a 4-inch flushout assembly at the end of all down sloping water mains as per Standard Drawing W-33 or equal on dead ends. Use Standard Drawing W-32 or equal on all other water mains. A flushout may not be required if there is a fire hydrant within 50 feet. (See Chapter 48.)

[ ] 28. Provide a 4-inch flushout assembly per Standard Drawing W-33 or equal and a 2-inch air and vacuum release assembly per Standard Drawing W-16 or equal at all unsloping dead ends. Flushout and ARV must be at right angle to water main. Try to locate assemblies on the property lines. Use a 6" x 4" 90 degree reducing elbow, B x F, with field lock gasket or an 8" x 4" 90 degree reducing elbow, B x F, with field lock gasket for 6-inch and 8-inch, mains, respectively. For larger mains use a B x F reducer and a 4-inch, 90 degree elbow, flagged.

[ ] 29. Provide a 4-inch flushout at all local low points per Standard Drawing W-33 or equal unless a nearby fire hydrant can be used as shown on sheets _____. (See Chapter 48.)

[ ] 30. Provide a 2-inch air and vacuum release assembly at local high points. Check street plans for local high points as shown on sheets_____.

[ ] 31. Check that the proposed water main sizes agree with the hydraulic analysis and are approved by the water purveyor.

[ ] 32. Provide pipeline curve data or call out offset fittings where special pipe fabrication is required.

[ ] 33. Locate fire hydrants at least five feet from BCR or ECR or top of driveway. Locate Fire Hydrants on property lines if not at an intersection.

[ ] 34. Provide a 5-foot minimum clearance between O.D. of the water main and the O.D. of a substructure, and between a fire hydrant lateral, and any above ground structure including light standards, sign posts or power poles.

[ ] 35. Provide written Fire Department acceptance of fire hydrants receiving pressures greater than 150 psi. Note the correct five hydrants on sheets_____. The maximum pressure for 200 WWP hydrant is 150 psi and above 150 psi, use a 250 psi WWP hydrant after receiving approval from the Water Purveyor. See Standard Drawings W-8, W-9, W-10, and W-11 or equal.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

[ ] 36. Show clearly the locations of all fittings and special joints.

[ ] 37. All valves, tees, crosses, and reducers at intersections shall be flagged on the plans. Use B x F adapters with field lock gaskets to adapt back to water main. They shall meet the requirements of Chapter 48.

[ ] 38. Show the location of in-line shutoff valves. Maximum spacing in residential areas is 1200 feet. There must be a valve at each intersection or as needed for operational purposes.

[ ] 39. Maximum water working pressure exceeds the design strength of the conduit or structure on sheet _____, Revise the design on the plan to correct the problem.

[ ] 40. Show location of thrust blocks and/or devices along with their minimum dimensions. Incorporate Standard Drawing W-21 or an equal as a detail in the plans. (See Chapter 48.)

[ ] 41. Show at interconnections, existing water mains to be abandoned flushouts that are to be removed, including the tee.

[ ] 42. Show location of easements on Plan. Show dimensions and bearings of easement boundaries. Easements are to be 10-foot wide minimum. Easement may be dedicated on tract map or dedicated by separate instrument which must be submitted.

[ ] 43. Show all maximum static/minimum dynamic pressure data and free standing (F.S.) elevations at intersections, interconnections, and fire hydrants as per legend symbols.

Maximum static pressure = (Zone - F.S. Elevation) (.433 psi/ft.)

Minimum dynamic pressure is determined from hydraulic analysis at maximum daily required domestic flow plus fire flow requirements.

[ ] 44. Add this note to all sheets with lots affected by minimum dynamic pressure less than 35 psi.

NOTE: Dynamic pressures are less than normal. Applies to lots_____, or applies to all lots hereon. Developer must temporarily supply additional water pressure to these lots until an adequate water system is installed. The time frame of this installation must be to the satisfaction of the County.

[ ] 45. Flushouts and ARV's are to be installed no closer than two feet from a tract boundary.

[ ] 46. Verify that the Standard General Notes in Item D are shown on the plans.

D. Standard General Notes

The standard general notes shown on the following pages are to be included on the standard title sheet. They are subject to revision to suit the needs of the Water Purveyor to the satisfaction of the County Engineer.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

1. Before starting any work on this project, the Contractor shall:

   a. Have submitted, a description of all acceptable materials and proposed use is as permitted by Chapter 48 to the Water Purveyor and possess a returned copy of such description marked "approved" for this project by the Water Purveyor.

   b. Have submitted evidence to the Water Purveyor that the Water Purveyor named insured by the Contractor's insurers in accordance with the General Provisions of the Specifications.

   c. Have given the Water Purveyor the telephone number, business or home address, and mailing address, and names of persons who can be reached in the event of an emergency occurrence on the project during the time the work is in progress, 24 hours per day, seven days per week.

   d. Have given the Water Purveyor two days in advance of start of work, notice in writing, of the time of start of work.

   e. The Water Purveyor will mark on the surface the Water Purveyor's existing facilities and will provide inspection only for Contractor to make installation.

2. It is recommended that the Contractor check these Plans against the approval plans before commencing construction of the water system. The water distribution system Plan for this project was prepared by the Developer's Engineer. The accuracy of the location or the existence or nonexistence of any utility pipe or structure within the limits of this project shown on these Plans does not constitute responsibility as to their location by the Water Purveyor or the County. New paving, curbs, and sidewalks shown approximately located on the Plans are understood to be done by other private contractors of the Developer and are shown for information only. The Contractor for the water system should verify the scheduling of the new paving, and other development work before proceeding.

3. All water system materials and construction shall comply with the requirements of the Water Purveyor and the Los Angeles County Code including the Utility Manual (Chapter 48.)

4. All work is subject to the requirements of the Road Excavation permit(s) regarding barricades, traffic control, backfill compaction, pavement repairs, etc.

5. All surveying services are to be furnished by the Developer's Engineer unless noted otherwise on the Plans.

6. All installed 4-inch and 6-inch diameter pipe shall have a minimum cover of 36 inches; 8-inch and 10-inch diameter pipe shall have a minimum cover of 42 inches; 12-inch diameter pipe shall have a minimum cover of 48 inches; and all service connections shall have a minimum cover of 24 inches, measured vertically from top of pipe to adjacent approved gutter surface flow line. Where construction of permanent gutter surface adjacent to the water main work is not complete nor under contract and consequently a gutter flow line is not established adjacent to the water main work, water mains shall be constructed with the minimum required cover measured from the projections of the adjacent established flow lines.

7. Minimum earth cover over top of the pipe at a fitting is controlled by the largest pipe.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

8. It shall be the Developer's duty to reconstruct any existing underground utilities including sanitary sewer and/or house laterals to meet applicable Code requirements.

9. Fire hydrant risers shall be installed as shown on the plans. Any necessary adjustment of fire hydrant break-off flange elevation shall be performed at time final finish grade is in place.

10. All new work shall be tested valve to valve at 200 psi for four hours, or as specified on the Plans and/or Specifications. Contractor shall design, furnish, and install any necessary thrust block in accordance with Standard Drawing W-21 or equal, or as shown on the Plans. (See Chapter 48.)

11. Contractor shall take all measures necessary to assure sanitary installation. He/she shall endeavor to keep all dirt, rodents, insects, etc., way from waterway surfaces. Isolation valves shall be kept closed (except during filling and flushing, when valves shall be operated as to assure flow toward new discharge) and shall be left closed at all other times until after pressure test, disinfection, flushing, and bacteriological test has been passed. Contractor shall notify Water Purveyor 24 hours in advance of any operation of isolation valves, which shall be operated only by Water Purveyor personnel. Water Purveyor will arrange for bacteriological test sampling of new water mains upon notification by Contractor. Water Purveyor will also arrange for concurrent bacteriological test sampling of supply.

12. The Contractor shall excavate, install connections, backfill, and repair damages at his expense. Only Water Purveyor's personnel shall operate valves as needed.

13. Any material salvaged from the existing Water Purveyor's water system by the contractor shall be returned by the Contractor to the Water Purveyor, unless such material is determined by the Water Purveyor's Inspector to be equivalent to new material required for this work, in which case the Contractor will be allowed to use such equivalent salvaged Water Purveyor's material in place of new material. Contractor shall redcoat, repaint, rework, clean, and test such material to the satisfaction of the Water Purveyor's Inspector before installing same.

14. Water Purveyor shall make arrangements to adjust valve boxes, fire hydrant break-off flanges, meter boxes, etc., to subdivision finish grade at times when finish grades are established after street paving.

15. Contractor shall not restrict the use of public right-of-way or access to adjacent premises for more than 4 hours.

16. In addition to items in list of materials, Contractor shall furnish all necessary adaptors, couplings, bolts, gaskets, caulking materials, and repaving materials that conform to the Standard Specifications and Utility Manual.

17. Before backfiling trench, all underground steel surfaces, unless noted otherwise or specified elsewhere in the Plans and in these Standards, shall be coated with a 2-inch minimum thickness of 1,000 pound cement mortar, (3 parts sand to 1 part portland cement to 1 part lime.)

18. The Contractor shall verify that the size, type, class, protective lining and coating, and depth of the existing water main meets the requirements of the Utility Manual (Chapter 48) and shall be responsible for making the proper connections to the satisfaction of the Water Purveyor.

19. All water system materials and construction shall comply with the requirements of the Utility Manual except when greater requirements are specified in these Specifications for this project which take precedence.

WATER DISTRIBUTION PLAN CHECK LIST (cont.)

Tract/Parcel Map No._____ Date _____

20. Fire hydrants are to be flow tested in accordance with Title 20 Division 1 at the Los Angeles County Code under the Direction of the Fire Development and Water Purveyor prior to final inspection and acceptance by the County Engineer.

21. Where fire hydrants are installed or upgraded, the Contractor shall install reflectorized, raised pavement markers (Stimsonite Hydrant Spotters), also commonly called "blue dots". A two part epoxy adhesive shall be used to install the markers in accordance with the manufacturers specifications.

    One marker shall be installed perpendicularly opposite each fire hydrant, approximately six inches offset from the centerline of the street on the hydrant side of the street. Two markers shall be required in the City of Landcaster.

22. The existence and location of any underground utilities, pipes, and/or structures shown on these Plans were obtained by a search of available records. To the best of our knowledge, there are no existing utilities except as shown on these Plans. The Contractor shall ascertain the true location of any underground utilities and shall be responsible for damage to any public or private utilities, shown or not shown hereon. It is also suggested that the Contractor pothole the area prior to installation to make sure connections and crossings can be made according to Plan. Any changes to the Plans must be approved by the Department of Public Works.

23. Asbestos-cement pipe shall be cut in accordance with OSHA Standards and the laws of the State of California. Abrasive saws for cutting this pipe will not be used. All asbestos residue shall be removed from job site and disposed of according to State law. Contractor working with asbestos materials must have registration for this work from the State of California Division of Occupation and Health Safety.

24. The maximum static pressure value is normally based on the overflow elevation of a gravity-feed storage tank or a discharge pressure setting at a pressure regulation station. This value is to be used for the design of pressure classes of pipes, valves, meters, fittings, etc., except where a booster pumping station produces pressures greater than the maximum static value. The greater pumping head value must then be used in the evaluation and review.

    The minimum dynamic pressure value is normally based on the average maximum domestic demand of existing customers plus that of the proposed project and the fire flow occurring concurrently. If an existing or proposed project requires a substantial fire flow, which is greater than what is being considered for the subject project, the effect of the greater fire flow must then be considered in the evaluation and review. The minimum dynamic pressure value is to be used for the hydraulic computation.

25. Contractor shall possess a valid class A engineering contractor's license, liability insurance and Workman Compensation Insurance before beginning work on this project.

Reviewed by _____ Date _____

Telephone No._____

Stamp or Seal

SAMPLE LETTER TO ACCEPT RESPONSIBILITY FOR TECHNICAL REVIEW OF WATER PLANS
(Must be on Water Purveyor's Letterhead.)

DATE_____

Director of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91803-1331

Attn. Land Development Division
Road, Sewer and Water Section

Dear Sir:

REQUEST TO ASSUME RESPONSIBILITY FOR_____

TECHNICAL REVIEW OF WATER PLANS_____

In accordance with Section 20.08.060 B.1 of Title 20 of the Los Angeles County Code, we request permission to assume responsibility for the technical review of all water plans within the service area of our water utility.

We agree to enforce the latest provisions of Title 20, Division 1 of the Los Angeles County Code and the Utility Manual which is Chapter 48 of the Land Development Procedure Manual. The current date of this Utility Manual is _____.

In addition we have reviewed the water plan check list dated _____ and agree to enforce its requirements along with the modifications that meet or exceed its requirements. Attached is a copy of our check list or a copy of the County's check list with the modifications noted. The review will be under the direction of _____ who is qualified to perform this review due to his/her experience and training.

Should the water purveyor change any of the above conditions, a new letter and materials stating the required changes must be submitted to the Department of Public Works for approval. The Water Purveyor acknowledges that the County can cancel this agreement with out cause at any time and require all applicants to pay to the County a technical plan check fee.

Signed_____
President or General Manager

Acknowledged _____
Reviewing Civil Engineer

Stamp or Seal
Expiration Date

Accepted _____
Assistant Deputy Director
for Land Development Division

SAMPLE OFFER FOR WATER SYSTEM EASEMENT

1. Onsite Easement

(Subdivider's Letterhead)

Date_____.

Director of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91103-1331

Attn. Land Development Division
Road, Sewer and Water Section

OFFER FOR WATER DISTRIBUTION EASEMENT

TRACT/PARCEL MAP NO._____.

Project Name_____.

We hereby certify that we are the owners of the property included within the above noted proposed Project and we do hereby, and for our heirs, executors, administrators, successors, and assigns, jointly and severally agree that prior to the transfer in fee of any lot/parcel as shown on the proposed Project that we will notify the prospective fee owner in writing that an offer of a water distribution easement has been made to _____(Name of Water Purveyor)_____ and is an encumbrance on the property even though the document may not be recorded.

Enclosed are executed copies of the proposed easements as shown on the attached map as exhibit "A."

_____

_____

Signatures must be notarized with proper acknowledgement.

SAMPLE OFFER FOR WATER SYSTEM EASEMENT

2. Offsite Easement

(Subdivider's Letterhead)

Date_____.

Director of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91103-1331

Attn. Land Development Division
Road Sewer and Water Section

OFFER FOR WATER DISTRIBUTION EASEMENT

TRACT/PARCEL MAP NO._____.

Project Name_____.

We hereby offer to the County of Los Angeles the certain strip(s) of land designated as "Future water distribution system easement" on the attached map shown as Exhibit "A" with the right to grant said easement to others, reserving to ourselves all ordinary uses of said land except the erection or construction of any structure not ordinarily placed in water distribution system easements until such time as said easement is accepted by the governing body.

The easement on the attached map shown as Exhibit "A" should be designated as "Future water distribution system easement to the County of Los Angeles".

Enclosed are executed copies of the proposed easements.

_____

_____

Signatures must be notarized with proper acknowledgement.

SAMPLE DISCLAIMER FOR DEVELOPMENTS
WHERE THE GROUND WATER SUPPLY IS DECLINING IN QUANTITY AND QUALITY
(Owner's Letterhead)

Director of Public Works
900 South Fremont Avenue
Alhambra, California 91803-1331

Attn. Land Development Division
Road, Sewer and Water Section

SUBMITTAL OF GEOHYDROLOGIC REPORT FOR TRACT/PARCEL MAP NO._____.

LOCATION _____.

I,_____, owner of proposed Tract/Parcel Map No. _____ understands that although the County is required by County Code to review the above referenced report, approval of that report will not be issued until evidence is provided to the County Engineer's satisfaction that minimum water quantity and quality standards shall be met. At that time water improvement plans can be submitted to the Department of Public Works for plan review and approval along with an application for certificate of registration to form a new water purveyor to serve the proposed subdivision.

Owner further understands that should the information in the report fail to justify the report's conclusions, the report and project are denied, no further submittals will be accepted, and the verification costs will be drawn from the deposit. Only the unused balance of the deposit will be refunded.

_____ _____
Owner Date

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

WATER CODE ENFORCEMENT SUBUNIT

SUBDIVISION MAP CLEARANCE REVIEW

Tract/Parcel Map No._____ Date _____

Engineer_____

Address._____ Plan is Approved ( )

Telephone No._____ Plan is Disapproved ( )

Water Purveyor_____

Address_____

Telephone No._____

A. Water Plan Check

[ ] 1. Obtain copy of approved Water Plan Check List or certification that the Water Purveyor has performed a technical review of the plans and noted that the plans meet the requirements on that check list.

[ ] 2. Verify that the water distribution plans are signed by a registered civil engineer with his/her stamp or seal and expiration date on each sheet of the plans. (See Chapter 61)

[ ] 3. Verify that the Water Purveyor has approved the water distribution plans.

B. Comparison of Water Distribution Plans with Final Map

[ ] 1. Verify that the water distribution plans shows Streets, Lot Lines and Easements that are identical to that shown on the Final Map.

[ ] 2. Submit a copy of proposed easement for water pipe line, pump station, water tank, reservoir and access to these facilities for onsite and/or offsite improvements.

[ ] 3. Submit an executed copy of "Offer of Water Distribution Easement". Signatures must be notarized with proper acknowledgment.

SUBDIVISION MAP CLEARANCE REVIEW (cont.)

Tract/Parcel Map No._____ Date _____

C. Other Submittals

[ ] 1. Submit a "Statement of Water Service" (will serve letter) executed by the Water Purveyor. (See Form on Page 25-13)

[ ] 2. Have the Water Purveyor submit a valid "Certificate of Registration" three copies of registration application are attached for completion by the Water Purveyor.

[ ] 3. Submit approved hydraulic calculations. (See Item A. 1 above regarding technical review requirements.)

[ ] 4. Verify with documentation from the Water Purveyor that the Water Purveyor can provide an adequate water storage capacity sufficient for a minimum of 48 hours to meet domestic water demand for metered locations and 96 hours for unmetered locations and the required water to meet the Fire Department requirements without any adverse effect on other adjacent areas served by the same water purveyor.

[ ] 5. Submit a copy of the Specifications.

[ ] 6. Submit an executed Multiple Agreement Form to guarantee completion of the installation of the water distribution system. (See Chapter 13 of this Manual.)

[ ] 7. Submit Faithful Performance Bond for $_____. (See Chapter 13 of this Manual)

[ ] 8. Submit Labor and Materials Bond for$_____. (See Chapter 13 of this Manual)

[ ] 9. Submit additional plan review fee of $_____. (See Chapter 13 of this Manual)

[ ] 10. Submit additional Subdivision Map verification deposit of $_____ .

[ ] 11. If this is a resubmittal of revised plans, submit latest correction list issued by the Water Purveyor and/or the Department.

[ ] 12. Submit copies of the latest approved plans for the following:

[ ] a. Grading
[ ] b. Storm Drain
[ ] c. Sewer
[ ] d. Road

D. Remarks

_____

Reviewed by _____ Date _____

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
- WATER DISTRIBUTION SYSTEMS -

COST ESTIMATE FOR BOND PURPOSES

WATER DISTRIBUTION SYSTEM FOR TRACT/PARCEL MAP NO._____.

LOCATION_____.

PREPARED BY_____DATE_____CHECKED BY_____DATE_____.

(1)

ITEM	QUANTITY	UNIT COST $ (1)	TOTAL COST $
4" A.C. PIPE		$ 13.00/ft	
6" A.C. PIPE		$ 19.00/ft	
8" A.C. PIPE		$ 25.00/ft	
10" A.C. PIPE		$ 30.00/ft	
12" A.C. PIPE		$ 36.00/ft	
14" A.C. PIPE		$ 42.00/ft	
16" A.C. PIPE		$ 49.00/ft	
18" A.C. PIPE		$ 54.00/ft	
6" Water Main 10 GA CML & CMC steel pipe		$ 75.00/ft	
8" Water Main 10 GA CML & CMC steel pipe		$ 80.00/ft	
10" Water Main 10 GA CML & CMC steel pipe		$ 85.00/ft	
12" Water Main 10 GA CML & CMC steel pipe		$ 90.00/ft	
6" Fire hydrant		$ 3,000.00 ea	
Air Vacuum Release Valve			
Less than or equal to 1"		$ 2,000.00 ea	
Greater than 1"		$ 2,800.00 ea	
Blow - off or Flushout		$ 2,000.00 ea	
Master Meter (above ground)		$ 11,000.00 ea	

COST ESTIMATE FOR BOND PURPOSES(CONT.)

ITEM	QUANTITY	UNIT COST $ (1)	TOTAL COST $
Master Meter, 6"(below ground) (2)		$ 26,000.00 ea	
Pump Station and Vault		(3)	
Pressure Regulator Station		(3)	
Water Tank or Reservoir		(3)	
Service End Meter Box			
Less than or equal to 1"		$ 800.00 ea	
Greater than 1"		$ 1,200.00 ea	
Detector Check Meter with Vault			
6" Lateral		$ 17,000.00 ea	
8" Lateral		$ 19,000.00 ea	
10" Lateral		$ 25,000.00 ea	
36" Boring and Casing Under Highway		$ 300.00/ft	

Subtotal $_____

Contingencies Less than $50,000-15%
50,000 to 100,000-10%
More than 100,000- 5% Adjustment to actual costs at end of agreement period (2yrs X 6%/Yr=12%)

Contingency $_____

Total $_____

(1) The unit prices shown are for subdivisions in which the street will be constructed as part of the complete work of the subdivision. The unit prices for construction within existing street will be higher.

(2) For unit cost for other sizes, add $3,000 to cost shown per each two-inch increment.

(3) Variations in requirements will require a cost estimate based on the water distribution plans and itemized materials list.

DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
WATER CODE ENFORCEMENT SUBUNIT
WATER SYSTEMS INSPECTION REPORT
LOS ANGELES, COUNTY CODE, DIVISION 1, TITLE 20

TRACT NO. _____ VICINITY _____

PARCEL MAP NO. _____ CITY _____

NAME OF WATER UTILITY _____

CONTRACTOR _____

ENGINEER _____ SUBDIVIDER _____

DATE STARTED _____ DATE COMPLETED _____

REQUIRED FIRE FLOW _____ GPM @ 20 PSIG RESIDUAL _____

DATE OF FLOW TEST _____ FLOW TEST RESULTS _____

DATE	REMARKS

(WTR2/22)

WATER CODE ENFORCEMENT SUBUNIT
FLOW TEST

DATE _____

Tract No. _____

Location _____

Water Co. _____

Hydrant Location _____

Hydrant Type 6" X 4" X 2½"

TEST NO. 1

Required Flow _____ gpm

Static Pressure _____ psig

Residual Pressure _____ psig

Pitot Reading _____ psig

Observed Flow _____ gpm

Names: _____
Department of Public Works

_____
Department of Public Works

_____
Forester and Fire Warden

_____
Water Purveyor

Hydrant Location _____

TEST NO. 2

Required Flow _____ gpm

Static Pressure _____ lbs

Residual Pressure _____ lbs

Pitot Reading _____ lbs

Observed Flow _____ gpm

FIRE FLOW COMPUTATION

$$Q_R = Q_F \times \left[\frac{h_R}{h_F} \right]^{0.54}$$

Where:

Q_R = Flow available at desired residual pressure
Q_F = Flow during test (Observed flow)
h_R = Pressure drop to desired residual pressure
= Static Pressure - 20 psig
h_F = Pressure drop during test
= Static Pressure - Residual Pressure

h_R = _____ psig

h_F = _____ psig

Q_R = _____ gpm at 20 psig

h_R = _____ psig

h_F = _____ psig

Q_F = _____ gpm at 20 psig

The results of the flow tests shown hereon is a certification of actual flow of the specified hydrant at the time and date above.

By _____ Date _____

Rev. 6/89

9535

(Date) _____

TO:
Bond Administration Subunit

FROM:
Water Code Enforcement Subunit

TRACT/PARCEL MAP NO.
WATER SYSTEM IMPROVEMENTS
COMPLETION OF WORK AND PARTIAL BOND RELEASE

The water system improvements for the above subdivision were _____ % completed in compliance with the plans and specifications on file with and in a manner satisfactory to the Department of Public Works. Therefore, _____ % of the security deposited for the faithful performance guarantee of these improvements may be released.

Please send a copy of your partial security deposit release letter to the Water Code Enforcement Subunit.

MS:dlw
MS3/22
L-2

(Date) _____

TO:
Bond Administration Subunit

FROM:
Water Code Enforcement Subunit

TRACT/PARCEL MAP NO.
WATER SYSTEM IMPROVEMENTS
COMPLETION OF WORK AND BOND EXONORATION

The water system improvements for the above subdivision were completed in compliance with the plans and specifications on file with and in a manner satisfactory to the Department of Public Works. Therefore, the security deposited sited for the faithful performance guarantee of these improvements may be released.

Please send a copy of your security deposit release letter to the Water Code Enforcement Subunit.

MS:dlw
BOND/22
L-2

MWSEXN

Month 00, 1986

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Name
X
X

Gentlemen: Dear :

WATER SYSTEM IMPROVEMENTS
TRACT PARCEL MAP NO. 00000

All water system work guaranteed by the improvement security listed below has been satisfactorily completed in compliance with the plans and specifications on file with this Department.

All water system work guaranteed by the Three-Party Water System Agreement listed below has been satisfactorily completed in compliance with the plans and specifications on file with this Department.

On behalf of the County of Los Angeles, we approved the work this date and released the following water system agreement:

Three-Party Agreement with X
Agreement Amount - $00,000
Agreement Date - x

On behalf of the County of Los Angeles, we approved the work this date and exonerated the following listed surety bond:

Bond Number x
Amount - $00,000
Surety - X

On behalf of the County of Los Angeles, we approved the work this date and released the following security deposit:

Certificate of Deposit Number x
Letter of Credit Number x
Passbook Number x
Amount - $00,000
Financial Institution - X

On behalf of the County of Los Angeles, we approved the work this date and hereby refund the following cash deposit:

MWSEXN

Receipt Number x
Date of Deposit - x
Amount - $00,000

On behalf of the County of Los Angeles, we approved the work this date and reduced the following surety bond to $00,000:

Bond Number x
Original Amount - $000,000
Surety - X

On behalf of the County of Los Angeles, we approved the work this date and reduced the following security deposit to $00,000:

Certificate of Deposit Number x
Letter of Credit Number x
Passbook Number x
Original Amount - $000,000
Financial Institution - X

Enclosed is your Certificate of Deposit. Letter of Credit. Savings Passbook.

A warrant for your cash deposit amount is being processed and will be forwarded to you in approximately one month.

By copy of this letter the water purveyor is hereby notified that the improvement security may be released.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

Carl L. Blum
Assistant Deputy Director
Land Development Division

LG:xxx 48

Enclosure

cc: Entity, if applies
Water Purveyor, if applies

DECLARATION OF COVENANT GUIDE

DIRECTIONS

Upon the acceptance of alternative fire protection systems in lieu of water mains and hydrants, the applicant must complete a Declaration of Covenant (Deed Restriction) in the following manner:

I. The covenant must be completely filled out, legibly and in ink and attached to it, a seperate sheet to show legal description of the property and detailed sketch of site location and major cross streets.

II. The covenant must be notarized, attach proper acknowledgment.

III. The covenant must be recorded with the L.A. County Recorder located at 227 N. Broadway, Los Angeles, 90012, telephone # (213) 974-6603.

IV. Verification of covenant must be on file with the Fire Prevention Division and Water Purveyor prior to acceptance of fire protection alternatives. The applicant must provide written verification (attached form) that the Water Purveyor has received a copy of the Deed Restriction.

1. Original recorded copy to — Land Development Division
Water Ordinance Section, 4th Floor
P.O. Box 1460
Alhambra, CA 91802-1460
Attn: Mike Saleh

Copies to — File
Water Company

Water Company Name _____

This document verifies receipt of a notarized and recorded Declaration of Covenant (Deed Restriction) for the following property:

Current Property Address _____
City

Owners Name _____

Signed: _____ Date: _____
Water Company Official

7/88-DECL/22

DECLARATION OF COVENANT FOR ACCEPTING FUTURE WATER SERVICE

This Declaration is made this _____ day of _____, 19_____, by_____, hereinafter referred to as "Declarant".

WITNESSETH:

WHEREAS, Declarant is the owner of all that certain real property located in the County of Los Angeles, State of California, more particularly described as:_____.

For Legal Description see Exhibit "A" and site plan with description included, attached here to and made a part hereon.

WHEREAS, Declarant is desirous of building a structure(s) on the hereinabove described property located at_____ Street_____, California ___.

WHEREAS, The County of Los Angeles, State of California, and more particularly the Fire Department of said County, is desirous of providing an adequate water supply with adequate water pressure to the hereinabove described property.

WHEREAS, There currently exists no system for supplying water except from an individual well, or the current water system for supplying water to said property is not capable of delivering the required flow quantities for fire fighting purposes.

NOW THEREFORE, Declarant declares that the hereinabove described property shall be held, sold and conveyed subject to the following covenant, for the purpose of enhancing and protecting the value, desirability and safety of the subject property.

COVENANT

Declarant hereby agrees that, in the event a water system is installed or, in the event the water system is improved to meet current fire department requirements by a municipality, public utility, County Water District, mutual water company or any public purveyor of water at some future date so as to provide adequate water service to the hereinabove described property, it shall participate in the improvement of such water system by connecting to the system and paying for its proportionate share of the total costs taking into account the total real property served by such a system.

This covenant shall run with the hereinabove described real property and shall be binding on all parties having or acquiring any right, title or interest in the property or any part thereof, and shall insure to the benefit of each owner thereof, from the date this Declaration is recorded, until fulfillment of said covenant.

IN WITNESS WHEREOF, the undersigned, being the Declarant herein, has executed this Declaration this_____ day of _____ 19_____.

BY:_____

BY:_____

(This shall be notarized and recorded.)

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director
CECIL E. BUGH, Chief Deputy Director
MAS NAGAMI, Assistant Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: L-2

April 21, 1989

RECORDING REQUESTED BY AND MAIL TO:

Mr. Robert Martinez
W. R. Lind
44 South Chester Avenue
Pasadena, California 91106

To Whom It May Concern:

RELEASE OF COVENANT

On February 13, 1985, a Covenant and Affidavit bearing Los Angeles County Recorder's Instrument No. 85-174672 executed by William L. Royster, Barbara I. Royster, John M. Brooks and Mary C. Brooks was recorded for the Parcel Map No. 13213. A water system for the area covered by the subject covenant has been installed and approved by the Forester and Fire Warden of the Los Angeles County.

Therefore, the subject covenant can now be considered null and void.

Very truly yours,

T. A. TIDEMANSON
Director of Public Works

MOKTAR S. SALEH
Water Ordinance Unit
Land Development Division

MS:dlw
COVENANT/4

25-62

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

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Very truly yours,

T. A. TIDEMANSON
Director of Public Works

OFFICIAL SEAL
LORRAINE K SIMPSON
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My comm. expires DEC 20, 1991

☒ personally known to me
☐ proved to me on the basis of satisfactory evidence
to be the person(s) whose name(s) is subscribed to the within instrument, and acknowledged that he executed it.
WITNESS my hand and official seal.

Lorraine K. Simpson
Notary's Signature

ATTENTION NOTARY: Although the information requested below is **OPTIONAL**, it could prevent fraudulent attachment of this certificate to another document.

THIS CERTIFICATE MUST BE ATTACHED TO THE DOCUMENT DESCRIBED AT RIGHT:

Title or Type of Document Release of Covenant
Number of Pages 1 Date of Document April 21, 1989
Signer(s) Other Than Named Above

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

WATER UTILITY CERTIFICATE OF REGISTRATION
(File in Triplicate)
DIVISION 1, TITLE 20, LOS ANGELES COUNTY CODE (WATER CODE)

_____
Name of Utility or Person

Date

_____
Street Address or P.O. Box

Number of Services _____

_____
City State

Number of Years utility has been providing water service _____

_____
Telephone

Expiration date of this Certification of Registration_____

1. I have a valid permit from the State of California, Department of Public Health, to operate a water system, a copy of which is attached. (Section 20.08.010, A).

2. I am familiar with the terms of this Division I, Title 20, of the Los Angeles County Code, and Section 10.301 of Title 32, of the Los Angeles County Code, relating to adequate water storage for fire protection and I agree to abide by terms therein. (Expansion of Section 20.08.010, A).

3. Plans and Specifications for the construction of Water Mains and Water Distribution Systems for all new subdivisions must be filed with the Department of Public Works, Land Development Division, for review and approval pursuant to provisions of Sections 21.32.060 and 21.32.110 of Title 21, of the Los Angeles County Code.

   Said plans shall include a certificate from a water utility that the proposed system can be operated by the water utility, and that the system will in every particular aspect meet the requirements of the Water Code.

4. The water utility shall renew the certificate of registration every five years. (Section 20.08.010, C).

5. In the case of water service for individual sites, a water utility or the Forester and Fire Warden, as the case may be, shall supply to the applicant for a building permit, the certificate required by Section 10.301 of Title 32 of the Los Angeles County Code. If the facts are such that such utility or the Forester and Fire Warden, as the case may be, truthfully can execute such a certificate. (Section 20.08.070).

DIVISION 1, TITLE 20, LOS ANGELES COUNTY CODE (WATER CODE)

6. Within thirty days after any changes in the water service area boundaries, revised maps shall be filed with the Department of Public Works.

7. Within thirty days after any change in the persons in responsible charge of the water utility as shown on the certificate, the Department of Public Works shall be so notified in writing. (Section 20.08.010, C)

8. Water utility certificates of registration or water utility authorizations issued pursuant to Division 1 of Title 20 of the County Code are not transferable from one grantee to another grantee, or from one location to another location. (Section 20.08.040)

9. In the event the water utility violates Division 1 of Title 20 of the Los Angeles County Code or is not discharging its responsibility as promised, the Department of Public Works may so advise the Water Appeals Board. Upon receipt of such advice, the Water Appeals Board shall conduct a public hearing and notify the water utility as provided in Section 20.080.110 of the Los Angeles County Code of the time and place of such hearing not less than five days prior thereto. If, from the evidence received at such hearing, the Water Appeals Board finds that the water utility has violated any provision of this Division 1, it may revoke the Water Utility Certificate of Registration of such water utility. The Water Appeals Board shall mail or otherwise deliver to the Water Utility a certified copy of its decision. (Section 20.08.050).

10. The persons in responsible charge of this water utility are:

_____

And _____

And _____

(Print Name) (Signature) (Title) (Address) (Telephone)

(Section 20.09.10, A).

11. I am the Professional Engineer engaged to perform engineering services for this water utility pursuant to Division 3, Chapter 7, Sections 6700-6799 (Professional Engineer Act), of the Business and Professions Code, State of California, and Title 16, Chapter 5, Article 1, Section 415, of the Administrative Code, State of California, and will be responsible for all Professional Engineer work performed by this utility.

_____ _____

Professional Engineer (Print Name) Signature

(Stamp or Seal) _____

Office Address

_____

City State

I, the undersigned, certify that all the information submitted in this document is true to the best of my knowledge.

_____
Signature of Principal

(If Corporation Affix Corporate Seal) _____
Signature of Secretary (if any)

E N D O R S E M E N T

CERTIFICATE RECEIVED_____
Date

REVIEWED AND APPROVED BY _____

_____
Date

SEE INSTRUCTIONS ON NEXT SHEET.

INSTRUCTIONS FOR CERTIFICATE OF REGISTRATION COMPLETION

1. The signatures of the Principal and Secretary on the Certificate of Registration shall be notarized by a Notary Public (Attach proper acknowledgement).

2. Such Water Utility Certificate of Registration shall be completed in triplicate and submitted along with a map indicating the water utility service area and the full payment of the processing fee. The fee charged for processing the Certificate of Registration is in accordance with Section 20.08.090 of Title 20 of the Los Angeles County Code. The payment check shall be made payable to the Department of Public Works. All shall either be submitted to the Los Angeles County Department of Public Works, Land Development Processing Center, 900 S. Fremont Avenue, 5th Floor, Alhambra, California 91803, or mailed to the above at Post Office Box 1460, Alhambra, California 91802-1460.

3. Upon receipt by the water utility of the copy endorsed by the Department of Public Works, the water utility may proceed with the design and construction of its water system which comes within the scope of the County Codes.

CHAPTER 26

COUNTY CAPITAL PROJECT CONSULTING PROCEDURES

DRAFT

The Geology and Soils Investigations Section reviews capital projects (those projects planned, designed, financed by and/or constructed by the County) that come under the requirements of the Building, Subdivision, Zoning and other Codes. In addition, the Section is available as a consultant to clientele comprised of other Divisions or other County Departments involved in the planning, design, construction and maintenance of a wide variety of civil engineering projects including roads, bridges, tunnels, channels, dams, debris basins, buildings, seawater barriers, pipelines, tanks, spreading ground, etc., as follows:

A. Capital Projects Subject to the Building Code Provisions

Capital projects requiring permits from Building and Safety Division are processed as other development projects. It should be noted that all other government agencies not under the control of the Board of Supervisors such as the Sanitation Districts of Los Angeles County, Las Virgenes Municipal Water District, Southern California Rapid Transit District, non contract cities, State Agencies, Federal Government agencies, etc., are considered "private developers" and are not processed by the provisions of this Chapter.

The exception to the normal review process is that easements and bonds are not normally required since the project will be financed, built and maintained by another County Department or Agency. If the County project affects rights-of-way under the jurisdiction of this Department, or this Department is to maintain a portion of the Capital project (such as a storm drain), then easements or right of entry agreements are required that define areas of responsibility between each agency. In these cases they are coordinated by Building and Safety/Land Development Division and processed by the Mapping and Property Management Division. When a storm drain system is involved, a separate easement to the Flood Control District is required.

The following chapters apply to those capital projects that are subject to the building code:

Chapter	Title
14	Grading Plan Check
15	Grading Permit Inspection
16	Building Plan Check
17	Building Permit Inspection
18	Private Drain Plan Check
23	Private Contract Sewers

B. Capital Projects Subject to the Subdivision, Zoning and Other Codes

Should a capital project be subject to the subdivision, zoning and other codes, it is processed as other development projects.

The following chapters apply to those capital projects that are subject to these codes:

Chapter	Title
9	Environmental Impact Report
11	Tentative Subdivision Maps
12	Subdivision Map Processing
22	Road Zoning Requirements

However, it should be noted that generally other Divisions may perform these functions without the involvement of Geology and Soils Investigations personnel.

C. Geotechnical Services for Other Capital Projects

The Geology and Soils Investigations Section of the Materials Engineering Division has consulting services available to Divisions within the Department of Public Works, other County Department and agencies and contract cities within the County. The Geology and Soils Investigations Section provides consulting services in engineering geology and in the field of geotechnical engineering (soils engineering). Information, guidelines and methods of acquiring these services are as follows:

1. The client indicates the need for obtaining geotechnical services by providing a letter of request which:

   a. Defines the project and scope of professional services desired.

   b. Provides authorization to perform the work, (a job number if within the Department of Public Works, or a Departmental Service Order (DSO) if an outside department).

2. If requested, the Geology and Soils Investigations Section is available to provide a cost estimate for an independent study or investigation.

   a. Geology studies and investigations commonly include costs for professional services such as geological mapping, laboratory and field testing, and research and for related outside services such as exploration equipment, operators, and supplies.

   b. Studies and investigations include costs for professional services such as the application of geological data, data analyses and report preparation including design criteria and recommendations. Contract services such as subsurface exploration, may be necessary if Department personnel cannot meet required time schedules. Field sampling and laboratory testing can be provided by the Materials Laboratory of the Materials Engineering Division.

3. The Geology and Soils Investigations Section provides geotechnical review services for County work by private consultants. The requesting division, organization, etc., initiates the review process and is provided a cost estimate as described above in Items 1 and 2. In performing the review, the standards established by the Building Code, and other applicable codes and associated policies are followed in the absence of specific instructions by the requesting organization (client).

4. When the Section is requested to perform explorations as part of a report preparation, the work must be coordinated with others Sections and Divisions, such as:

   a. Flood Maintenance Division which usually provides excavation and drilling equipment along with personnel to operate the equipment.

   b. Materials Laboratory of Materials Engineering Division which usually provides sampling equipment and personnel to obtain samples and perform field and laboratory tests.

5. Once all geotechnical information has been gathered, coordination is often necessary between the project geologists and engineers relative to the analyses to be performed, the conclusions and recommendations. Based on the clients' wishes, findings may be presented in a joint report or in separate reports.

6. Once an investigative report or review sheet has been generated by the Section, the document is sent to the requesting organization.

Typical organizations sending capital project work to the Section are as follows:

a. Design Division
b. Waterworks and Sewer Maintenance Division
c. Construction Division
d. Planning Division
e. Flood Maintenance Division
f. Hydraulic/Water Conservation Division
g. Road Maintenance Division
h. Aviation Division
i. Mapping and Property Management Division
j. Internal Services Department
k. Parks and Recreation Department
l. Forester and Fire Warden Department
m. Contract Cities, and
n. Beaches and Harbors
o. Sheriff's Department, etc.

D. Geotechnical Inspection and Investigation Services

The Section also performs specialized inspections, investigations and consulting services to other Divisions of the Department and other County Departments. These services vary considerably and are too numerous to be included in this Manual. Besides the routine procedures described below, these professionals have assisted in such diverse areas as County litigation. Museum programs and displays, etc. The following are routine procedures performed by the two investigation and capital project units:

1. Storm Drains

The Section occasionally assists inspectors in monitoring the placement of bedding and backfill materials and in design for unanticipated subgrade conditions encountered during construction.

Contract Specifications writers also often request determination of rippability of bedrock and verification of potentially unstable bedrock conditions and high groundwater conditions.

2. Dam Safety

All dams under the jurisdiction of the Department must be inspected periodically by a geologist and a civil engineer. Quite often the services of the Section are needed in evaluating the stability of a dam and/or its foundation and abutments. In general, the Section provides services as required by Department Policy and State and County Codes as described in Chapter 38.

The following are the various tasks performed by the engineering geologists and/or geotechnical engineers in meeting their responsibilities relative to dams:

a. Monthly (when appropriate) storm and earthquake reviews of major dams. This includes reviewing leakage flows and groundwater levels. The reviews are used in detecting possible safety problems and are utilized in the annual dam safety report to the State.

b. Inspections and reports on remedial modifications for specific dams for Design Division and the Review Committee on Dam Safety. This includes reviewing recommendations by outside consultants.

c. Preparation of the annual dam safety surveillance summary report that is submitted to the Review Committee on Dam Safety for those dams under the jurisdiction of the State of California.

d. Recommendations for the installation for additional monitoring and instrumentation to the Review Committee on Dam Safety.

e. Reviewing geohydrology reports on dams regarding uplift pressures, leakage or seepage in the dam foundation and abutments.

f. Collection and evaluation of conductivity measurements at dams regarding potential dissolution of abutments and foundations.

g. Reviewing and updating monitoring schedules at the dams.

h. Performing emergency inspections after major storms or earthquakes and service as a "clearing house" for "Red Line" reports at dams.

i. Reviewing seismicity data.

j. Reviewing plans for dam or appurtenant structure modifications.

k. Reviewing and performing slope stability analyses as requested for any dam including embankment and/or abutment stability.

l. Recommending locations for domestic water supply wells to service a major dam.

m. Performing foundation and other types of geotechnical exploration of dam sites for the Review Committee on Dam Safety.

n. Preparing various geotechnical reports as requested for a dam site.

3. Sediment Placement Sites

The Section provides feasibility studies of Sediment Placement Sites and reviews proposed sediment removal methods.

Once constructed, the Section monitors the slopes and makes recommendations for any remedial measures necessary to protect public health and safety.

4. Channels and Spreading Grounds and Basins

The Section provides consulting services for Hydraulic/Water Conservation and Design Divisions regarding the modification and/or development of channels and spreading grounds and basins. This includes:

a. Logging of monitoring exploration borings.

b. Prediction and evaluation of water infiltration and its subsurface movement away from the facility.

c. The design of channels, levees and dikes by geotechnical engineers.

5. Sea Water Intrusion Barrier Wells

   Geotechnical Investigations is responsible for providing all engineering geological services for contract drilling and for advising Hydraulic/Water Conservation Division on any proposed modification to the sea water barrier projects. This includes recommending new injection well and observation well locations and various groundwater hydrology studies.

6. Bridge and Tunnel Construction Inspection

   Geotechnical Investigations often are required to perform inspections on the excavations for bridge foundations and tunnel constructions to verify that subsurface conditions are as anticipated in establishing design criteria. Geotechnical Investigations' personnel work closely with the construction inspector to verify that the soil surface materials will perform as intended in supporting the proposed bridge or tunnel. Providing liquefaction potential and ground motions estimates for bridge retrofit projects is also coordinated with Design Division.

7. Landslide Investigations and Remedial Design

8. Review of Solid Waste Permits/Applications and Environmental Documents for Health Services Department

9. Environmental Investigations Phase I and II Site Investigations and Reviews of Private Consultant's Reports for Department of Public Works and Other County Departments

CHAPTER 27

CODE ENFORCEMENT APPEAL PROCEDURES

As noted in Chapter 2 of this Manual, Building and Safety/Land Development Division is primarily responsible for Code enforcement. All enforcement decisions are subject to appeal in which the applicant tries to convince higher authorities that the unfavorable decisions were not in accordance with the Federal, State and County Codes or were not backed up by the submitted evidence. The Department, however, has limited authority to approve exceptions to Code provisions.

The following is a description of appeals procedures applicable to Land Development activities:

I. Scheduling of Reviews

Applicants sometime request expeditious handling of their submittals for various reasons. After receipt of a verbal or written request, an investigation as to the justification of the request is performed by personnel in the Land Development Management Agency (LDMA). Therefore, it is important that the request contain the necessary information for justification. Approval for expeditious handling of a project can only be granted when one of the following conditions occur:

A. The project is under the jurisdiction of the Housing Authority of the Federal Department of Housing and Urban Development (HUD) or consists of 10 to 25 percent of low income housing units. ("Fast Track" Project)

B. The project is part of the "Coordinated Subdivision Program". The conditions for placing this project begin on Page 27-8. This includes paying a special fee and meeting document submittal conditions.

C. The project has a mandated schedule established by State and local Codes.

Once the revised schedule is approved, the form on Page 27-18 is completed and distributed to the affected sections.

II. Technical Decision Appeals

Several appeal boards have been established by the Board of Supervisors to hear appeals of technical decisions made by county personnel. The aggrieved parties have a right to submit their appeal and ask relief to these boards and commissions. The following Appeals Boards are available to the applicant:

A. Los Angeles County Engineering Geology and Soils Review and Appeals Board

Owners/developers who may disagree with the decisions of the Geology and Geotechnical Engineering Development Review Section/Unit of the Materials Engineering Division may appeal to the Engineering Geology and Soils Review and Appeals Board. (See Chapter 8 regarding the organization of this Board.)

1. Procedure for Appeal

The dissatisfied applicant may obtain the form "Application for Geotechnical Notice of Appeals" and procedures from the Secretary of the Board at (818) 458-4923.

2. Time Limit

A written notice of appeal must be filed with the Secretary of the Board within 30 days after such a decision that is to be appealed is made by the Department of Public Works. The applicant must state the reasons for the appeal and the address to which all future notices to him should be mailed.

3. Hearing

Upon receiving a notice of appeal of the decision of the Department of Public Works, the Secretary of the Board shall set the matter for hearing not more than 40 days after filing of the notice of appeal. The Secretary shall give not less than 5 days notice in writing to the appellant, either in the manner required by law for the service of summons or by first class mail prepaid address as specified in the notice of appeal. At the hearing the board shall hear the appellant and consider his testimony and any other evidence which in its opinion is germane material.

4. Board Decisions

Based upon the evidence at the conclusion of the hearing(s), or thereafter, the board shall affirm, reverse or modify the decision of the Department of Public Works. Within 10 days after the decision of the Board, the secretary thereof, in writing, shall notify the appellant of the decision.

B. Water Appeals Board

The organization of the Water Appeals Board is described in Chapter 7, Part D.

1. Types of Appeals

The Water Appeals Board has agreed only to hear appeals related to approval of Building Permits. All appeals regarding subdivision processing, zone changes, conditional use permits, special use permits, which are processed by the Regional Planning Department handled under the provisions in Item E on Page 27-7.

Any aggrieved person may take an appeal of a Building Application denial to the Water Appeals Board from any decision or determination made pursuant to the Water Code or the Fire Code. An appeal shall be taken within 30 days from the date of the decision or determination by this Department, Forester and Fire Warden, any water utility or other public agency by filing with the water appeals board, a notice of appeal, specifying the grounds therefore.

The Water Appeals Board must find that it is both practical and feasible to hear the complaint. On hearing the complaint, it is necessary for the Board to determine whether or not the following exist:

1/ In erecting and using the proposed structure or in carrying on the proposed activity, the applicant can obtain water in such quantities and at such pressures as will comply with the provisions of the Water Code; or

2/ Upon completion of the proposed structure or the beginning of the proposed use, the applicant will be entitled to a variance pursuant to the Water Code.

The Bounty Code is to be modified to reflect the above statement.

2. Appeal Submittal Procedure

The appeal submittal procedure is shown on Pages 27-20 and 27-21. The application (Capacity Information) form is shown on Page 27-22. The required mapping details must be shown on Page 27-23. The appeal materials must be submitted to the Secretary of the Water Appeals Board through the Land Development Processing Center.

3. Appeals Board Jurisdiction

The refusal or acceptance of jurisdiction pursuant to the Water Code shall be at the sole discretion of the Water Appeals Board and shall be final. There shall be no appeal from a refusal of the Water Appeals Board to accept jurisdiction. If the Water Appeals Board accepts jurisdiction, it shall decide the matter pursuant to the Water Code and its decision shall be subject to review as provided in the Water Code.

4. Requests from Regional Planning Commission

In order to determine whether or not to recommend to the Board a change of zone or other amendment to the Zoning Code (Title 22 of the County Code), the Regional Planning Commission may request either the Department of Public Works or the Forester and Fire Warden to supply it with information concerning the required fire flow, the existing amount and pressure, and other facts pertaining to the existing or proposed water supply of the territory which may be affected by the change of zone or other amendment. The Department of Public Works and the Forester and Fire Warden shall comply with such requests.

5. Setting Hearings

The Water Appeals Board may delegate to its secretary the duty to set any appeal hearings. In those cases, if any, in which it does so, upon receiving a notice of appeal, the secretary shall set the matter for a public hearing. In all other cases the Water Appeals Board shall do so.

6. Notice of Hearings

As soon as the appeal has been set for a hearing the Secretary shall give not less than five days notice in writing of the time and place of such hearing, to the appellant and to all members of the Water Appeals Board, including advisory members, and to such other persons, including but not confined to, such public officers, departments, bureaus or agencies, if any, as he believes may be interested.

7. Code Provision Modifications

The code provisions may be modified when:

a. If at the conclusion of such a hearing, the Water Appeals Board finds that any provisions of the Water Code or Building Code, or any order of any officer pursuant to the Water Code would, if enforced, cause any unnecessary hardships or practical difficulties inconsistent with economic feasibility or normal development, or would do manifest injustice, or would impose a burden upon any person disproportionate to any benefit to the general public, or would be contrary to the spirit and purpose of the Water Code or public interest, it may vary the application of the provisions of

the Water Code or such order to the extent necessary to avoid such results. The Water Appeals Board shall specify the reasons for its decision.

b. Where the requirements of a customer are such that a water utility can not supply such requirements without adding to or increasing its water system, upon the request of such customer or such water utility, the Water Appeals Board may recommend as to what proportion of the cost should be borne by such customer and by such water utility.

c. In the event the water utility violates the Water Code, or it is not discharging its responsibility as promised, the Water Code Sub-unit may so advise the Water Appeals Board. Upon receipt of such advice, the Water Appeals Board shall conduct a public hearing and notify the Water Appeals Board shall conduct a public hearing and notify the Water Utility as of the time and place of such hearing, not less than five days prior to the hearing day. If from the evidence received at such hearing, the Water Appeals Board finds that the Water Utility has violated any provision of the Water Code, it may revoke the Water Utility Certificate of Registration or the Water Utility Authorization of such Water Utility. The Water Appeals Board shall mail or otherwise deliver to the Water Utility a certified copy of its decision.

8. Appeals Board Decisions

The Water Appeals Board shall in any case reach a decision without unreasonable and unnecessary delay. Every decision shall be in writing and shall indicate the vote. Every decision shall be properly filed with the authority making the original decision or determination giving rise to appeal and a certified copy of the Water Appeals Board decision shall be filed or otherwise delivered to the appellant. Unless an appeal is taken from such decision, or if an appeal is taken and the decision is affirmed, the authority making the original decision or determination appealed from shall abide by the decision of the Water Appeals Board.

9. Appeal of Appeal Board Decision

Within 15 days after receipt by the appellant or water utility, a copy of a decision of the Water Appeals Board, he or any other person deeming himself aggrieved by such a decision, including county officers, whether the officer from who the decision they appealed to the Water Appeals Board was taken, or any other county officer, may file with the clerk of the Board of Supervisors a written notice of appeal from such decision.

10. Procedure for Appealing to the Board of Supervisors

Every person taking an appeal to the Board of Supervisors from the decision of the Water Appeals Board, except a County Officer, at the same time, shall deposit with the clerk of the Board of Supervisors, an amount which the clerk estimates to be ample to cover the cost of one original and five carbon copies of the transcript or transcripts, of all hearings held by the Water Appeals Board. For the purpose of this section the cost shall be assumed to be:

a. The actual amount charged, for the transcript, is prepared by a private contractor or his estimates thereof;

b. Where the transcript is prepared by a county employee, the amount provided by law as fees of the county clerk for preparing such transcripts.

11. Accounting of Deposits Received

The Clerk of the Board of Supervisors shall keep a permanent and accurate account of all deposits received on an appeal, giving the name of the appellant upon whose account the same was deposited, the date and amount thereof, together with a number of the case to which it relates.

12. Refund of Deposits

If the Board of Supervisors modifies the decision of the Water Appeals Board and determines that the taking of the appeal justifies, or if the Board reverses the decision of the Water Appeals Board, the Clerk of the Board shall refund to the appellant, the entire amount of his deposit.

13. Payment of Extra Costs or Refund

If a refund is not due to the appellant pursuant to the previous section and if the actual cost of the transcript is more than the amount deposited by the appellant, such appellant shall deposit the deficiency; if less, the clerk of the Board shall refund the difference to the appellant.

14. Board of Supervisors

Upon receiving a notice of appeal, the Board of Supervisors may:

a. Affirm the action of the Water Appeals Board; or

b. Require a transcript or a recording of the testimony and all other evidence upon which a Water Appeals Board made its decision. Upon receiving such evidence the Board of Supervisors shall take action as, in its opinion, is indicated by such evidence; or

c. Refer the matter back, with or without instructions, to the Water Appeals Board for further procedures; or

d. Set the matter for hearing before itself. At such hearing, the Board of Supervisors shall hear and decide the matter de novo as if no other hearing has been held.

15. Appeal to Courts

If the appellant is not satisfied with the decision of the Board of Supervisors, he then may pursue the matter in the courts.

C. Building and Safety Appeals Board

Code non-conformance relative to Chapters 3, 26, 29 and/or 70 of Title 26 of the County Code (Building Code) may be reviewed and determined for equivalency pursuant to Sections 105 and 106 of the same Title 26 by the Structural Section of Building and Safety Division or appealed to the Building and Safety Appeals Board constituted under Section 206 of the same Title 26 for appropriate action.

In order to start the appeal process, the owners/developers must submit a specific proposal in a letter along with documents in support of their proposal meeting Code requirements to the head of the Structural Section of Building and Safety Division who will review it for equivalency under the provisions of the same Title 26 and either make a decision or refer it to the Building and Safety Appeals Board for a hearing and a decision.

The Building and Safety Appeals Board will hold a hearing to review the information and then will make a decision of order which is binding on all parties.

Any questions regarding appeals under these chapters of Title 26 of the County Code should be directed to the Head of the Structural Section at (818) 458-3166.

D. Appeals Regarding Small Dam Construction and Maintenance Requirements, Drainage Violation Notices and Unauthorized Encroachment Notices

1. Violation Notification

Whenever our drainage engineers encounter drainage violations associated with a small dam, natural channel blockage and unauthorized encroachment within County or Flood Control property or easement, they will notify the owner utilizing the form on Page 27-26. If the owner does not comply, the Director of Public Works can take enforcement action as described below or in Chapter 38 of this Manual.

Enforcement actions are often the result of the following two types of Code violations:

a. Natural Channel Blockage

A natural channel blockage is deemed to occur when the natural drainage within a watershed is prevented from being contained within the designated or historical water course.

A developer is prohibited from modifying the drainage pattern or adversely affecting adjacent off-site property.

b. Unauthorized Encroachment on County Property or Easements.

Public property is usually by law under the control of a designated public agency. The designated agency controls the property in accordance with the provisions of the applicable codes in the same manner that private property owners control their property. Easements are parts of public or private property in which an agency, individual or organization has been given the use of the easement area for a specific purpose.

It is illegal for a person to encroach on others' property including publicly owned property without the property owner's permission. For both public and private property Codes define what types of encroachment is legal without specific permission.

In the case of easements, the grantor (property owner) cannot impede the grantee (easement holder) in the pursuit of the granted use of the easement.

Division 5 of Title 20 of the County Code defines allowable encroachments on Flood Control District properties. Properties controlled by special Districts or agencies are subject to the charter or agreement requirements that were established at the time of incorporation.

2. Request for Hearing

The applicant, permittee, owner, or the Director of Public Works, may request, in writing, a hearing before the Board of Supervisors within 30 days of the date of any written notification concerning the denial of a permit, the requirement for special conditions relative to issuance of a permit, the suspension of work, the operation and maintenance of a small dam or the cost of emergency work. A request for hearing shall not delay or prevent emergency work ordered by or performed by the County.

3. Appeals Hearing

Not less than 10 days prior to the hearing, the Clerk of the Board of Supervisors shall serve or cause to be served, either in the manner required by law for the service of summons or by first class mail, postage prepaid, a copy of the notice of hearing upon all parties concerned, and to all persons who have requested within the past 60 days that they receive notice of such hearing or hearings.

4. Notice of Hearing

Whenever in this chapter notice is to be served by personal service or by registered or certified mail, it shall be deemed that a reasonable effort has been made to serve such notice when registered and certified letters have been mailed to the address of the party being served, as shown on the official record or on the record of the County Assessor. When an address is not so listed or a contact cannot be made, the service shall be by posting on the site of the small dam. Notice shall be deemed effective 10 days from the date of posting.

The notice of hearing shall state the address and a legal description of the property upon which the small dam is situated or proposed, sufficient for identification; the conditions or questions for which the hearing was requested; the date, hour, and the place or the hearing; and the name and address of the owner or permittee.
Not less than 10 days prior to the hearing, the Clerk of the Board of Supervisors shall cause a notice of the hearing to be posted in a conspicuous place on the property upon which the small dam is situated or proposed.

5. Violation and Penalties

A person shall not erect, construct, enlarge, alter, remove, demolish, use, operate or maintain any small dam in the unincorporated portion of the County, or cause same to be done, contrary to or in violation of any of the provisions of the Small Dams Ordinance (see Chapter 38).

Any person, firm or corporation violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor, and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this Chapter is committed, continued or permitted, and upon conviction of any such violation, such person shall be punishable by a fine of not more than $500.00 or by imprisonment for not more than six months, or by both such fine and imprisonment.

E. Tentative Subdivision Map Appeals

All appeals regarding tentative subdivision map approval are processed by Regional Planning Department. Appeals can be heard by the Board of Supervisors. The appeals procedure must meet the requirements of Section 66452.5 of the California Government Code. If the appeal is based on environmental concerns as presented in Section 12037 of the Government Code, it may be appealed to the Office of Intergovernmental Management. If it is a Land Project as defined in Section 11000.5 of the Business and Professions Code, it shall be reviewed by this Office.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (818) 458-5100

THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE:

TO: ALL CONCERNED PRIVATE ENGINEERS AND LAND DEVELOPERS

COORDINATED SUBDIVISION PROCESSING PROGRAM

In an effort to shorten processing time for plan checking, the Department of Public Works has initiated the Coordinated Subdivision Processing (CSP) Program.

Under this program, a developer submits a complete package of all necessary plans and maps. The Department will make a coordinated review of all plans and meet the developer and engineer to discuss any corrections required.

A copy of the criteria and a list of all necessary submittals is attached. Any questions regarding this program should be directed to Mr. Bernard Momita of Development Management Section of the Land Development Division at (818) 458-4953.

JV:ca/cspp

Attach.

COORDINATED SUBDIVISION PROCESSING (CSP) PROGRAM

General Policy and Procedures

For a project to be considered for acceptance into the Coordinated Subdivision Processing (CSP) Program, the following criteria must be met:

* The developer has submitted a written request to the Development Management Section, Land Development Division (Attention: Bernard Momita) for entry of the project into the Program and agreeing to abide by all terms and conditions. the request must indicate the project size, location, and complexity and must be signed by both the developer and the project engineer.

* The tentative map, as well as all other concurrent cases which require approval by the Regional Planning Commission or Board of Supervisors, have been approved.

* The Hydrology Study has been approved.

* The project does not require approval from Caltrans or a railroad.

* The project does not require condemnation of off-site easements.

When considering a written request for acceptance of a project into the CSP Program, the Department of Public Works will apply the following criteria:

* The availability of a Land Development Management Agency (LDMA) Project Coordinator. Each Project Coordinator will be assigned a maximum of three concurrent projects.

* Size of the project. Small subdivisions (less than 25 lots) and large subdivisions (over 100 lots) will be given lowest priority.

* Complexity of the project. Projects with complex storm drain systems (PDs) will be given lowest priority.

* Past success/failure of projects entered into the Program by the applying developer and/or engineer.

* The sensitivity of the project (social, environmental, etc.). Projects likely to be delayed by external factors will not be accepted.

Submittal Procedures

* The project engineer will make a coordinated submittal of all improvement plans, the final map, and all support material necessary to be deemed a complete submittal.

* The engineer will submit a written statement that he has reviewed all submittals and found them to be complete, accurate, and consistent.

* A fee of $3,500 will be paid at the time of first submittal. This fee is in addition to all other processing fees.

* All submittals are to be made through the assigned LDMA Project Coordinator who will screen the submittals. The project engineer or a qualified representative must be present at the screening.

* Resubmittals must be made within 20 working days of notifications that the plan review was completed.

* All plan review comments must be addressed on the resubmittal.

Review Procedures

* The assigned LDMA Project Coordinator will screen each submittal for completeness then distribute the submittal to the proper sections for review. Incomplete submittals or resubmittals where all plan review comments have not been addressed will be rejected (1st, 2nd, and 3rd submittals).

* The Project Coordinator will notify each section head that the project is in the CSP Program and will establish a review completion date.

* Each section head is responsible for adhering to the established completed date.

* The Department of Public Works commits to completing a coordinated review of the project within 15 working days of submittal (1st, 2nd, and 3rd submittal).

* When the review of a submittal is complete, the Project Coordinator will arrange an internal meeting to review the project and coordinate all comments and/or requirements (1st, 2nd submittals).

* When satisfied with the review, the Project Coordinator will arrange an external meeting with the developer and engineer to review comments. Each section will be represented by a staff person able to answer questions and make policy decisions (1st, 2nd submittals).

Miscellaneous

* The CSP Program is for the first three submittals only. Plans should be in a condition to be approved on the third submittal. Subsequent submittals will be processed on a routine basis.

* Any deviation from these procedures will disqualify the project from the Program. Example: Partial resubmittal such as grading plan only. A disqualified project will be dropped from the Program and receive standard processing from that point forward. There will be no refund of fees, partial or total, for disqualified projects.

* Any substantial revision to the tentative map or hydrology will disqualify the project.

* The CSP Program applies only to the reviews made by Land Development Division and does not apply to reviews by other divisions of the Department of Public Works, such as Traffic and Lighting and Mapping and Property Management, or other departments, such as Fire Department and Regional Planning.

10/18/90/CS

TR/PM _____ DATE _____

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

In order to process your submittal, all of the following items are required to be completed prior to the acceptance of the improvement plans for plan review. All boxes must be checked indicating completion of the item. If the information is not completed, the improvement plans will not be accepted.

TRACT & PARCELS MAPS

[ ] 1. Prints of final maps:

[ ] County and City Engineer Maps: Four (4) sets (files, check, monument inspection, and tax) plus one (1) extra set for each required clearance (delete 1 set if a monument inspection is not required).

[ ] Contract City Map: Five (5) sets (file, check, tax, monument inspection, and street names) (delete 1 set if a monument inspection is not required).

[ ] 2. Date of approval/expiration of tentative map for city maps and a copy of the conditions of approval for cities where verification of conditions is required.

[ ] 3. Preliminary title report/guarantee or the name and order number of the company who will prepare it.

[ ] 4. Complete copies of all deeds referenced on the map or required for the interpretation of deeds referenced on the map.

[ ] 5. Complete copies of all field book pages referenced on the map.

[ ] 6. Complete copies of all other documents and information referenced on the map.

[ ] 7. Mathematical traverses of the boundary of the division of land, block boundaries, not-a-part areas, centerline, loops, and each lot or parcel shown on the map. The mathematical traverses can be copies of hand run or computer/calculator print-outs and must show latitudes and departures or coordinates, areas in square footage, curve data (including tangents), and errors of closure. Traverses are also required for any revisions made on the map after first submittal.

[ ] 8. Two (2) exact scale duplicates of the most recent Assessor Map Book page or pages with the boundary of the proposed division of land outlined in red.

[ ] 9. The following items must be shown on the final map:

[ ] a. Labeling of all boundary lines with the reference which established the line.

[ ] b. Record data note for compiled parcels maps.

[ ] c. Basis of bearings for surveyed maps.

[ ] 10. Processing fees (minimum of the following for lst submittals):

[ ] a. Map analysis (depends on number of lots/parcels - see fee schedule).

[ ] b. Tax clearance - $325 with 5 year tax history by a title company (must be an original and signed by a title officer).
- $600 without 5 year tax history.

GRADING PLANS

[ ] 1. Engineer's yardage estimate (showing cut and fill) on plans.

[ ] 2. Checking fee (based on larger of cut or fill yardage) plus LDMA surcharge fee.

[ ] 3. Signature of licensed Civil Engineer on plans.

[ ] 4. Four (4) sets of legible Grading plans including:

a. A detailed vicinity map.

b. Existing and proposed contours.

c. Notes as required.

d. Typical details as required.

[ ] 5. Four (4) sets of preliminary Soils/Geology report(s) for Grading plans showing compacted fills. Approval statement and original, manual, signatures of the geotechnical consultants, on each sheet of plans.

[ ] 6. Approved or direct check hydrology study.

STORM DRAIN PLANS

[ ] 1. Engineer's construction cost estimate.

[ ] 2. Checking fee or deposit plus LDMA surcharge fee.

[ ] 3. Signature of a licensed Civil Engineer on plans and calculations.

[ ] 4. Submit two sets of plans.

[ ] 5. Submit one set of all supporting plans (if not previously submitted).

[ ] Road Plan.

[ ] Final Map.

[ ] 6. A complete set of all supporting calculations to include hydraulic, structural, debris storage, and any other applicable calculations.

[ ] 7. Approved or direct check hydrology study with all areas colored separately.

[ ] 8. Grading plan.

[ ] 9. Soils report for the PD plan.

[ ] 10. Complete set of any supporting documents (i.e. drainage release letters, offsite easements, and restrictive covenants).

[ ] 11. The following items must be shown on the Storm Drain Plan:

[ ] a. Slopes and elevations.

[ ] b. Natural and finished ground surfaces.

[ ] c. D-loads shown at bottom of profile.

[ ] d. Storm Drain alignments.

[ ] e. Inlet and outlet facilities, including CB's.

[ ] f. Hydraulic grade lines.

[ ] g. Bench Mark.

[ ] h. Hydraulic elements table.

[ ] i. Location and Vicinity Map.

[ ] j. Plan & profile.

[ ] k. List of standard drawings.

[ ] l. Standard title sheet with required notes showing index to sheets and key map.

[ ] m. Structural details for special structures.

[ ] n. Easements.

[ ] o. Details of any device for which there is not a standard drawing.

ROAD PLANS

[ ] 1. Conditions of approval.

[ ] 2. Engineer's construction cost estimate.

[ ] 3. Checking deposit or fee plus LDMA surcharge fee.

[ ] 4. Signature of licensed Civil Engineer on plans.

[ ] 5. Two (2) sets of Road Plans with one extra title sheet.

[ ] 6. "Utility Map" (Copy of Final Map with utilities shown in red).

[ ] 7. Approved, detail, or direct check hydrology study, on a contour map, showing:

[ ] a. All contributing areas in acres and all areas colored separately.

[ ] b. Run off quantities (Q's) at locations where concentrated flows enter or are removed (Qp.u. Pick up at C. B.) from a street, and at intersections where drainage is critical.

[ ] 8. One set each of all supporting plans/ maps:

[ ] Grading Plan

[ ] Storm Drain Plan

[ ] Final Map for file or Deed Map for file if Deeded Street. Map and Road Plan horizontal alignment must agree.

[ ] Final Map for street light estimate.

[ ] 9. Complete cross-sections (preferably 10 feet beyond right of way) whenever joining or capping of existing street is involved. Cross-section and road plan stationing must agree.

[ ] 10. Bench Mark as recommended by the Survey Division of the Public Works Department.

[ ] 11. Profiles of streets extended beyond the tract boundary, a minimum distance of 300 feet (100 feet if curbs are existing).

[ ] 12. If Deeded Street, Deed Map transparency.

[ ] 13. Submit hard copy profiles (showing c and both E.G.'s) when intersection design of highways are required.

[ ] 14. Approved I.E.C. alignment for all Major and Secondary highways.

SEWER PLANS

[ ] 1. Engineer's construction cost estimate.

[ ] 2. Checking fee or deposit plus LDMA surcharged fee.

[ ] 3. Signature of a licensed Civil Engineer on plans.

[ ] 4. Two (2) sets of Sewer plans showing plan and profile in street, easements, stations, elevations, natural, and finished ground surfaces, mainline, and house connections.

[ ] 5. Separate reproducible index map (scale 1" = 600').

[ ] 6. Area Study.

[ ] 7. Copy of existing sewer plan showing outlet for proposed sewer.

[ ] 8. Field notes showing ties to existing sewer outlets, elevations of existing inlets and outlets, and existing elevations of surface over proposed sewer.

[ ] 9. One (1) set each of all supporting plans/map:

[ ] Final Map.

[ ] Grading Plan.

[ ] Storm Drain Plan.

[ ] Street Plan.

[ ] 10. Easement sketch when proposed sewer crosses through private property.

WATER PLANS

[ ] 1. Engineer's cost estimate for the construction of the water system for bond purposes.

[ ] 2. Checking fee or deposit, $600 + Land Development Management fee when applicable.

[ ] 3. Signature of a licensed Civil Engineer on plans.

[ ] 4. Two (2) sets of Water plans approved by water purveyor.

[ ] 5. Statement of water service from the water purveyor.

[ ] 6. Fire Department requirements.

[ ] 7. Water improvements calculations.

[ ] 8. One (1) set each of all related supporting plans/map:

[ ] Final map.

[ ] Grading Plan.

[ ] Storm Drain Plan.

[ ] Street Plan.

[ ] Sewer Plan

Authorized Agent	Firm Name and Telephone Number

10/17/90/GP

Date: _____

LAND DEVELOPMENT DIVISION
Approval To Expedite Processing

TO: ☐ Subdivision-Mapping ☐ Road/Sewer & Water
☐ Drainage & Grading ☐ Geology & Soils

Project: _____

Location: _____

_____

Specific Item to be Expedited: ☐ One time only ☐ Until approved

_____

_____

_____

DEADLINE: _____

Request made by: _____

☐ Notify the undersigned when processing has been completed.

APPROVED: _____

cc: Donald L. Wolfe
N. C. Datwyler
Dean Efstathiou
John Engeman
LDMA (Original)
Processing Center

REV:5/90

(DISK F1(FORMS)/EXPEDITE)

ENGINEERING GEOLOGY AND SOILS REVIEW AND APPEALS
BOARD
APPLICATION FOR GEOTECHNICAL NOTICE OF APPEAL

To: County of Los Angeles
Department of Public Works
Land Development Division
900 South Fremont Avenue
Alhambra, California 91803
Attention: Geology and Soils Section

INFORMATION: Please print or type entire form (6 copies)

JOB ADDRESS NO. STREET CITY LOT TRACT

BETWEEN CROSS STREETS

AND

OWNER'S NAME TELEPHONE NUMBER

EXISTING USE OF PROPERTY PERMIT NUMBER

PROPOSED USE OF PROPERTY PLAN CHECK NUMBER

JOB STATUS: PROPOSED [ ] UNDER CONSTRUCTION [ ] COMPLETED NEW BUILDING [ ] EXISTING BUILDING [ ]

DATE OF COUNTY DECISION BEING APPEALED:

APPEAL INFORMATION AND REQUIREMENTS:

The Appellant has 30 days after the County issues a decision to submit an appeal. Adequate supporting data is necessary to justify the appeal.

A complete submittal of six copies of all materials, including plans, geology and soils reports, etc., and application must be filed with the Secretary of the Board before a Board hearing can be scheduled. The Board will schedule a hearing within 40 days of receipt of the complete submittal. A meeting agenda will be sent to the Appellant with the hearing notice at least 5 days before the hearing. Note: The policy of the Board is that once a complete appeal submittal has been distributed to Board members for review and a Board hearing scheduled, no other data on this appeal will be distributed to the Board members, and that all information to be acted on by the Board must first have been properly received and processed by the Secretary of the Board. The Board will consider limited verbal testimony during the hearing at the Board's discretion.

JUSTIFICATION: State reason for appeal relative to the decision by the County.

(Attach additional sheet if necessary)

APPELLANT'S SIGNATURE: (Must be the real party in interest.) (NOTE: Agent's representative's signature not acceptable.)

DATE:

APPELLANT'S NAME [Please type or Print]: TELEPHONE NUMBER

APPELLANT'S MAILING ADDRESS NO. STREET CITY

12/12/90/DiskC:APP2

Water Appeals Board

CARMEN M. ENRIQUEZ, COORDINATING SECRETARY
900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1460
(818) 458-4910

To Prospective Appellant
County of Los Angeles
Water Appeals Board

Your appeal should be filed with this office at the earliest possible date to allow time to place the appeal on the Board's agenda and for proper consideration by the Board. The Board normally meets the first Thursday of each month.

The appeal should be received at least 3 weeks prior to that date. You will be sent in advance of the meeting at which your appeal is to be heard a copy of the Board agenda.

Sixteen (16) copies each of the appeal letter, map and fire flow requirements in writing should be filed. Also sixteen copies of page 3 enclosed.

The letter to the Board should also include the following if possible and available in BRIEF statement form.

1. The nature of the appeal: i.e., are you trying to obtain a building permit

2. The reason for the appeal: i.e., the water purveyor will not issue a water certificate, the existing water system will not provide the required fire flow, etc.

3. The requirements imposed by the Fire Department, Regional Planning Department, Water Ordinance Unit of Public Works, or the Building and Safety Division of the Department of Public Works you are appealing. (Obtain from the particular department or division the REQUIREMENTS IN WRITING.)

Include with the appeal a check or money order in the amount of two Hundred Ten Dollars ($210.00) made payable to the COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS. Your appeal should also include a topographical map. The plan shall include the information on the enclosed sheet No. 1 "Mapping Details".

The applicant shall also complete and submit the enclosed sheet No. 3 "General and Water System Information."

You should come to the Board Meeting prepared to answer orally questions of the Board Members. You may bring your engineer and/or other representatives. The Board may render a decision on the case at that meeting or may continue the case for further information and decision.

You will receive, following the meeting, a written statement of the decision.

NOTE: Decisions of the Board may be appealed to the COUNTY OF LOS ANGELES BOARD OF SUPERVISORS 15 (FIFTEEN) DAYS AFTER YOU RECEIVE THE MINUTES. IF YOU INTEND TO APPEAL, ADDRESS YOUR APPEAL TO THE EXECUTIVE OFFICER-CLERK OF THE BOARD OF SUPERVISORS, ROOM 383, 500 W. TEMPLE STREET, LOS ANGELES, CA 90012.

NOTE: THE FACT THAT THE FIRE FLOW IS WAIVED BY THE WATER APPEALS BOARD DOES NOT MEAN THAT THE OTHER REQUIREMENTS OF THE FIRE CODE CANNOT BE ENFORCED.

1-89
Enclosure

WATER APPEALS--GENERAL AND WATER SYSTEM

CAPACITY INFORMATION:

Applicants

Name_____
please print

Address_____

City_____

Telephone (area code)_____
home

(area code)_____
work

Record Owner

Name_____
please print

Address_____

City_____

Telephone (area code)_____
home

(area code)_____
work

Water Purveyor_____

Address_____

City_____

Telephone_____

Building Site Address_____

Est. Cost of proposed building_____

Present Land Use_____

Existing Zoning _____

Proposed Zoning_____

Description of Building_____Type_____

Building size_____sq. ft.

Size of lot_____sq. ft./acre

Required fire flow_____gpm @ 20 psi.

Duration_____hrs.

Required Fire Hydrants_____Size_____

Capacity of water main_____gpm

Normal water pressure of system_____psig.

Description of water system improvements necessary to meet requirements:

_____

_____

_____

Estimated cost of water system improvements:_____.

MAPPING DETAILS

The appeal shall include a topographical map drawn on a 16-inch by 26-inch sheet, the map shall be drawn at a scale of one (1) inch to One Hundred (100) feet or at such scale to clearly show the following details:

(1) Scale and north point.

(2) Vicinity map.

(3) The Parcel or lot in question showing its relation to the other surrounding parcels, and adjacent intervening streets.

(4) Designate the parcels with exsiting structures and those that are undeveloped.

(5) Street names, widths, curb, gutter, and median strips.

(6) Street status (private/public).

*(7) Location and size of water main.

*(8) Location, flow and type of fire hydrants.

(9) Building pad, length and width of driveway.

(10) Location and size of water system improvements.

Note: *Information should be obtained from the local water purveyor.

2

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
900 S. FREMONT AVENUE
ALHAMBRA, CA 91803-1331
(818) 458-4921

DRAINAGE VIOLATION NOTIFICATION

To: _____
(Name)

_____

_____
(Address)

The (natural drainage course) (small dam) (drainage facility) (_____) on the property located at _____ was recently inspected. In accordance with the provisions of Chapter 11.62, Small Dams, of Title 11 of the Los Angeles County Code the following corrective measures, as checked, must be taken within _____ days.

( ) Remove the obstructions in the natural drainage course.

( ) Restore the natural drainage course to its original capacity and alignment.

( ) Remove the recently constructed drainage facilities and/or submit plans to the Department of Public Works for upgrading the drainage facilities to County standards as required by the Title 26 of the County Code (Building Code).

( ) Submit plans to the Department of Public Works for approval for the drainage facilities to be constructed.

( ) File an application with the Department of Public Works to (construct) (modify) the small dam in accordance with the above provisions of the County Code.

( ) The existing small dam is considered unsafe and must be removed.

( ) Stop all work at the site.

( ) _____

_____

_____

Failure to comply with the above requirements will be cause to issue a misdemeanor complaint for the violation(s). For further information, please contact the undersigned Engineer at:

_____ (____) _____
(Name) (Area Code and Phone No.)

by _____
Department of Public Works
Land Development Division

_____ Regional Office

FORM 3

DRAFT

CHAPTER 28

ENVIRONMENTAL DOCUMENT GUIDELINES

An environmental document must contain sufficient information so that a determination by the enforcement agency can be made regarding a proposed project's anticipated effect on the environment. For subdivision processing the Department of Regional Planning is responsible for approving environmental documents. The procedures for this Department's approval are in Chapter 9 of this Manual.

The discussion in an environmental document must describe the existing conditions, impacts caused by the proposed project, the level of significance for each of the impacts identified, mitigation measures to lessen or avoid the impacts and the level of significance after mitigation. If applicable, each of the following subjects should be covered in the report with the following information:

1. Grading

   The grading aspect in the environmental document must describe the intensity, area, and location of the proposed grading. It must include the effect of grading on the immediate area and on the site. It also must describe the environmental impact of the import and export of materials to and from the site. This aspect must also consider secondary effects caused by grading such as siltation potentially impacting a downstream significant ecological area such as coastal wet lands, the Santa Clara River or other natural water sources, dust from disturbed earth in high wind areas such as the Antelope Valley, or other disturbances to the environment.

   The environmental document must conclude that all grading will be done in accordance with the latest edition of Title 26 of the County Code (Building Code).

2. Drainage

   The flood hazard and debris potential must be identified and mitigating measures proposed. The environmental documents must address the existing drainage facilities in the area and the effect of the proposed drainage facilities on the existing facilities. The environmental documents must also address any impacts on the adjoining properties due to any change in flow patterns, velocity of flow and any incremental increase in runoff due to the development. The environmental document must conclude that the environment from a drainage standpoint will not be harmed.

3. Geology

   The environmental document must contain a description of the general geology of the area. It must show any existing or potential hazards on the site, any effects that the proposed development will have on the stability of the site and adjacent property, and any proposed mitigative measures deemed necessary to prove the feasibility of development.

   The geology portion of the report must be coordinated with a geotechnical engineer so that the comments are consistent. In general, detailed subsurface exploration is not required unless it is needed to define hazards and determine possible mitigating measures.

   It is commonly required that substantiating geotechnical reports be appended to the document (see Chapter 49 of this Manual for report guidelines).

The environmental document must include a general description of existing and potential geologic hazards, such as the following:

a. Landslides.
b. Potentially unstable slopes.
c. Existing groundwater conditions effect on and consequence of development.
d. Potential for groundwater contamination.
e. Abandoned wells or landfills that might be on the site.
f. Seismic shaking related hazards.
g. Potential fault rupture/active faults.

4. Geotechnical Engineering

The environmental document must contain a description of all the soils within the proposed development and also describe the existing and potential behavior of the rock and soils due to the proposed development. The geotechnical engineering portion of the document must be coordinated with the geology portion so that the comments are consistent. The following hazards must be identified and shown that adequate mitigating measures can be applied:

a. Soil Compression.
b. Expansive Soils.
c. Hydroconsolidation.
d. Slope Stability of the Natural, Cut and Fill Slopes.
e. Surficial Stability of Natural, Cut and Fill Slopes.
f. Erosion of the Site Development and Natural Slopes.
g. The Effect of Possible High Sulfide and Sulfate Concentrations on the Development
h. Liquefaction and Lateral Spreading.
i. Landslides.
j. High ground water.
k. Unsuitable soils or materials.
l. Abandoned wells or structures.

5. Sewers

The environmental document must demonstrate that there will be adequate sewage facilities available for disposing of domestic waste to support the development.

If there are no sewage handling facilities available, the Developer will have to consult will the local water quality control board to determine if on-site disposal is permissible prior to presenting an environmental statement. Because of existing water quality problems, certain areas within the Lahontan Regional Water Quality Control Board's jurisdiction cannot tolerate on-site domestic waste disposal. Currently, these areas are Acton, Agua Dulce and Leona Valley. Other areas may be added. (See Chapters 24, 46, and 59 of this Manual.)

If the Proposed development is not suitable for on-site domestic Waste disposal, the subdivision must either be annexed to an existing sanitation district or a new sanitation district must be established for the entire region. If a new sanitation district must be established, a regional study will be required to determine the future needs of the region: The study will have to contain the following in addition to the requirements in Chapter 47 of this Manual:

a. The boundaries of the proposed district.

b. A location for a sewer treatment plant facility, or an outlet to a facility.

c. An initial size and anticipated ultimate size of the facility.

d. The location and size of trunk sewers.

e. The disposal of the treatment plant effluent in such a manner that it will not harm the environment.

Once the regional study has been accepted by all concerned agencies and the Sanitation District formed, the environmental documents can be prepared.

The environmental document for the sanitation district must address all issues that involve the design, construction and maintenance of a sewage treatment system. Based on the regional study, the developer must propose in the environmental documents that there be sufficient development of the sanitation district facilities to meet the needs of the development to the satisfaction of this Department. Waterworks and Sewer Maintenance Division has the principal responsibility for approving any sewage treatment system. The Department will be concerned about serving the development and eventually the surrounding area in the same watershed.

If there are no facilities in the area to handle domestic waste, the Health Department must approve the environmental document regarding domestic waste disposal.

6. Hazardous Waste and Methane Gas.

Any sanitary landfills or existing or abandoned oil wells within 1000 feet of the site must be noted in the environmental document. Any hazardous waste currently or will be on the site must be noted. Mitigation measures must be presented to the satisfaction of Waste Management Division.

CHAPTER 29

SUBDIVISION MAPS AND SUPPORTING DATA

This Chapter contains the contents and minimum design standards for the approval of tentative and final subdivision maps and supporting data that must be submitted in order to subdivide a piece of land. The procedure for obtaining approval for the subdivision is described in Chapter 11 (tentative map approval) and Chapter 12 (final map approval). It should be noted that there are a number of exclusions to the Subdivision Map Act (see Chapter 51 regarding obtaining copies of this document). These exclusions are noted in Sections 66412 through 66412.8 of the State Subdivision Code.

This Chapter is divided into the following specific subjects regarding the submittal of subdivision maps and supporting data:

I. Tentative Map Contents - Information and Documents Required

A. The tentative map shall show and contain, or be accompanied by, the following matters as an aid to the advisory agency in its consideration of the design of the division land:

1. The map number.

2. Sufficient legal description of the land as to define the boundaries of the proposed division of land.

3. Name and address of subdivider and of registered civil engineer or licensed surveyor who prepared the tentative map.

4. The locations, names and existing widths of all adjoining highways, streets or ways (Refer to Item 4.c. Chapter 11 on Page 11-4 for available documents containing this information).

5. The width and approximate grades of all highways, streets and ways within such proposed division of land (Refer to Part 1 - Chapter 21.14 "Access", Part 2 - Chapter 21.14 "Highways", Part 3 - Chapter 21.14 "Local Streets and Ways" of Title 21 of the County Code for Code requirements. (Also refer to Items I, II, III and IV of Chapter 44 of this Manual.)

6. The widths and approximate locations of all existing and proposed easements, whether public or private, including but not limited to those for roads, paseos, walkways, service roads, alleys, turn arounds, cul de sacs, private streets, future streets, highways, drainage, sewage disposal, firefighting access and public utility purposes as required in Title 21 of the County Code. The subdivider or his agent shall certify by an affidavit or by a declaration made under penalty of perjury pursuant to Section 2015.5 of the California Code of Civil Procedure that all existing easements of record are shown on the tentative map.

7. Approximate radius of all curves for lots/parcels, easements, road right-of-way, etc. (See Item X on Page 29-10 for survey requirements.)

8. The approximate lot layout and the approximate dimensions of each lot. (For lot requirements see Part 4 - Chapter 21.23 "Lots" of Title 21 of the County Code.)

9. The approximate locations of all areas subject to inundation or storm-water overflow, and the location, widths and directions for flow of all watercourses. (See Chapter 11

of this Manual regarding check lists and guidelines for drainage submittals. See Chapters 32, 33, 34 and 35 of this Manual for design criteria.)

10. Source of water supply, if any (see Chapter 11 of this Manual regarding a check list for tentative maps. See Chapter 48 of this manual regarding code requirements.)

11. Proposed method of sewage disposal. Where public sewers are not available and where private sewage disposal systems will be utilized, the results of percolation tests shall be submitted in accordance with the recommendations of the health officer. The location of any existing sewage disposal system which is proposed to remain in the division of land shall be shown on the tentative map. (See Chapter 11 of this Manual regarding a check list for tentative maps. See Chapter 46 of this Manual for design requirements for Private Contract Sewers, Chapter 47 of this Manual for Area Sewer Studies and Chapter 24 for establishing a private waste disposal system.)

12. The proposed use of the property, including the number of dwelling units contained in each of the following:

    a. Detached single-family residences.

    b. Attached single-family residences (townhouses), two-family residences and/or apartment houses containing fewer than five-dwelling units.

    c. Apartment houses containing five or more dwelling units; and

    d. Mobilehomes.

    Consult the Department of Regional Planning for permissible uses of the property.

13. Proposed public areas, if any.

14. Approximate contours at sufficient intervals to determine existing topography and all proposed grading. Proposed grading shall be shown in a manner that feasibility of compliance with Chapter 70 of Title 26 of the Los Angeles County Code (Building Code) can be determined (see Chapter 30 of this Manual for grading standards.)

15. Date, North point, and scale.

16. Number for each lot/Parcel.

17. Approximate location of each area covered by trees, with a statement of the nature of the cover and the kind and approximate location of all trees standing within the boundaries of the proposed public rights-of-way.

18. Approximate location and outline to scale of each building or structure which is not to be moved in the development of the division of land.

19. Each street shown by its actual street name or by temporary name or letter for purposes of identification until the proper name of such street is determined (see Chapter 44). All private and future streets shall be so designated on the tentative map.

20. A geotechnical report to determine whether the property to be divided is subject to an existing or potential geological hazard, and/or a written report stating how the

geological conditions will affect the proposed development shall be submitted whenever required by the Geology and Soils Section (see Chapter 49 of this Manual).

21. In a division of land consisting of a condominium project as defined in Section 1350 of the California Civil Code or a community apartment project as defined in Section 11004 of the California Business and Professions Code, a lease project or a mobile home division of land, both as defined in Title 21 of the County Code, a tentative map shall show the general location of all buildings and other structures to be erected, or maintained, the distances to the unit lies from all said buildings and structures, and the means of access thereto.

22. A written statement by the registered civil engineer or land surveyor as to whether or not he will set boundary monuments prior to filing with the County Recorder of the final map. (See Item X.D beginning on Page 29-11.)

23. A statement of the existing zoning and, if a zone change is proposed, the requested zoning for all real property within the division of land.

24. A vicinity map showing the location of the division in relation to the nearest existing cross streets.

25. Three prints of the most recent Assessor Map Book page or pages covering the proposed division of land. (See Chapter 11 of this Manual.)

26. Such other information as the advisory agency may require, such as a copy of the Thomas Guide page. (See Chapter 11 of this Manual.)

B. If it is impossible or impracticable to place upon the tentative map any matter required by this section, such information shall be submitted with the map.

C. When required by the plan checker, the subdivider shall submit a preliminary geotechnical report with each tentative map. This report must show that the tentative map will have a buildable site on each lot/parcel and a safe access to that buildable site (see Chapter 49 of this Manual).

D. Check lists used for the approval of tentative maps are shown in Chapter 11 of this Manual.

II. Tentative Minor Land Division Map Contents - Information and Documents Required

A. The tentative minor land division map must contain the following:

1. North point, date and scale;

2. The map number;

3. The dimensions and record boundaries of the total ownership;

4. Sufficient dimensions and record boundaries so as to define the boundaries of the proposed minor land division;

5. The approximate boundaries, dimension and area of each proposed parcel;

6. A number for each parcel;

7. General information as to locations, names, widths and improvements of all adjoining highways, streets or ways;

8. The widths and approximate locations of all existing and proposed easements, whether public or private, including but not limited to those for road, drainage, sewage disposal, fire fighting access and public utility purposes. The subdivider or his agent shall certify by an affidavit or by a declaration made under penalty of perjury pursuant to Section 2015.5 of the California Code of Civil Procedure that all existing easements of record are shown on the tentative map;

9. Actual street names or an identifying letter for proposed streets (see Chapter 44 of this Manual);

10. Where the design of building sites, parcels, streets or easements is controlled by topography, approximate contours at sufficient intervals to determine existing topography and all proposed grading. Proposed grading shall be shown in a manner such that feasibility of compliance with Chapter 70 of Title 26 of the Los Angeles County Code (Building Code) can be determined (see Chapter 30 of this Manual for design standards);

11. The approximate location, house number (if any), and proposed disposition of existing structures or improvements within or immediately adjacent to the division. Such structures or improvements shall be shown to scale. If it is impossible or impractical to describe such structure or improvements on the tentative map, such information shall be submitted on a separate sheet;

12. The approximate location and direction of flow of all defined watercourses (see Chapter 11 of this Manual regarding check lists and guidelines for drainage submittals. See Chapters 32, 33, 34 and 35 of this Manual for design criteria);

13. A vicinity map, if necessary, to show the location of the division in relation to the nearest existing cross streets;

14. The general location of all buildings to be erected or maintained within a condominium project, community apartment project or lease project, and the means of access to such buildings;

15. The location of any existing sewage disposal system which is proposed to remain in the division of land.

B. In addition, the subdivider shall submit the following written statements for a tentative minor land division:

1. A legal description of all ownerships comprising any and all parts of the proposed minor land division;

2. A statement that the subdivider is the record owner of all real property comprising the proposed minor land division, or that the record owner(s) consents to the submission of the map, and a disclosure of any fee interest that the subdivider has in any property adjacent to the minor land division;

3. Where required by the Subdivision Committee, a signed and acknowledged statement disclosing such information as is necessary, in the opinion of this committee, to establish that the proposed subdivision meets the requirements of a minor land division;

4. The method of sewage disposal for each parcel. Where private sewage disposal systems will be utilized, the results of percolation tests shall be submitted unless waived by the Health Officer.

5. The source of domestic potable water supply for each parcel;

6. A clear statement of the proposed use of the property;

7. A statement of the existing zoning and, if a zone change is proposed, the requested zoning for all real property within the minor land division;

8. If the Geology and Soils Section so requests, an engineering geological report and/or soils engineering report stating whether the property to be divided is subject to an existing or potential geological and/or soils hazard and how such hazard, if any, will affect the proposed division. The report shall be prepared by an engineering geologist certified by the State Board of Registration for Geologists and/or a registered civil engineer, experienced in geotechnical engineering, as appropriate;

9. Two prints of the most recent Assessor Map Book page or pages covering the proposed division of land;

10. Such other information as the advisory agency may require.

III. Vesting Tentative Maps

The filing of a vesting tentative map is the exclusive option of the subdivider and is not a pre-requisite to any proposed subdivision or an application for development. The following procedures will be required to file a vesting tentative map:

A. At the time a vesting tentative map is filed, it shall contain on its face in a conspicuous manner, the words "Vesting Tentative Map".

B. A vesting tentative map shall be filed in the same manner as a tentative map or a tentative minor land division map, whichever is applicable.

C. The approval or conditional approval of a vesting tentative tract by the advisory agency shall establish a vested right to proceed with the applicable ordinances in general and specific plans in effect at the date the accompanying application is deemed complete pursuant to the State Code. However, a permit, approval, extension and/or entitlement may be made conditioned or denied if any of the following are determined by the local agencies:

1. Failure to do so would place the residence of the subdivision or the immediate community, or both, in a condition dangerous to their health or safety.

2. The condition or denial is required in order to comply with mandates of either State or Federal law.

D. When a subdivider files a vesting tentative map for a subdivision and the proposed development is inconsistent with the zoning ordinance in existence at the time of filing, said inconsistencies shall be noted on the map. This note will invalidate the vested tract unless there is a zone change. Should the zone change be approved, the vested tentative tract then can proceed.

IV. Requirements for all Tentative Maps

A. Map Number

The map number will be assigned in accordance with the procedure described in Chapter 11. The registered civil engineer or land surveyor shall obtain a map number before submitting a tentative map.

B. Tentative Map Size and Layout

Each tentative map shall be eight inches by 12 inches, or any multiple thereof, and shall be drawn to such scale as to clearly show the details of the plan thereon. Wherever practicable, such scale shall be a scale of one inch to 100 feet. However, it is County policy that only one sheet shall be used.

C. Zoning and Subdivision Application (Formally Owner Statement)

The Zoning and Subdivision Application (formally Owner Statement) must be completely filled out with all requested information. A sample copy of this Zoning and Subdivision Application form, cut to letter size, is on Pages 29-40 through 29-44. Copies are on legal size paper and only those obtained from Department of Regional Planning are acceptable for use.

D. Thomas Guide Page

A copy of the Thomas Guide Page shall be submitted in accordance with the procedure described in Chapter 11 of this Manual. This page shall contain the number assigned to the proposed subdivision along with either of the following depending upon the size of the subdivision:

1. The outline of the tract.

2. The coordinates of the proposed subdivision.

3. An arrow pointing to the proposed subdivision.

E. Drainage Concepts

Drainage concepts shall be submitted in accordance with the minimum standards described in Chapter 32 of this Manual.

F. Geotechnical Reports

Geotechnical reports must contain sufficient information to determine Subdivision feasibility. The information in the report must be complete with sufficient detail so that the geology can be verified in the field and the geotechnical engineer can verify the submitted calculations and analyses. The report must contain the geology on a single sheet showing locations of all the lots. The report shall be prepared in accordance with the minimum standards described in Chapter 49 of this Manual.

V. Final Subdivision Map Requirements

A. Final Tract Map Requirements

The final map shall be prepared by or under the direction of a registered civil engineer or licensed land surveyor, shall be based upon a survey, and shall conform to all of the following provisions:

1. It shall be legibly drawn, printed, or reproduced by a process guaranteeing a permanent record in black on tracing cloth or polyester base film. Certificates, affidavits, and acknowledgements may be legibly stamped or printed upon the map with opaque ink. If ink is used on polyester base film, the ink surface shall be coated with a suitable substance to assure permanent legibility.

2. The size of each sheet shall be 18 by 26 inches. A marginal line shall be drawn completely around each sheet, leaving an entirely blank margin of one inch. The scale of the map shall be large enough to show all details clearly and enough sheets shall be used to accomplish this end. The particular number of the sheet and the total number of sheets comprising the map shall be stated on each of the sheets, and its relation to each adjoining sheet shall be clearly shown.

3. All survey and mathematical information and data necessary to locate all monuments and to locate and retrace any and all interior and exterior boundary lines appearing thereon shall be shown, including bearings and distances of straight lines, and radii and arc length or chord bearings and length for all curves, and any information which may be necessary to determine the location of the centers of curves and ties to existing monuments used to establish the subdivision boundaries. (See Item X beginning on Page 29-9.)

4. Each lot shall be numbered and each block may be numbered or lettered. Each street shall be named or otherwise designated.

5. The map on each sheet and the lettering thereon should be oriented so than, the north point is directed consistently to the top or to the left of the map to ease plan checking.

6. The exterior boundary of the land included within the subdivision shall be clearly marked by distinctive symbols and clearly so designated. The map shall show the definite location of the subdivision, and particularly its relation to surrounding surveys.

7. If the map includes a "designated remainder" parcel, and the gross area of the "designated remainder" parcel or similar parcel is five acres or more, that remainder parcel need not be shown on the map and its location need not be indicated as a matter of survey, but only by deed reference to the existing boundaries of the remainder parcel. A parcel designated as "not a part" shall be deemed to be a "designated remainder" for purposes of this section.

8. Typical non-condominium tract map layouts are shown on Pages 29-45 and 29-46.

9. Typical areas that must appear on the final map are listed on Page 29-47.

See Chapter 50 regarding obtaining copies of standard map sheets.

B. Final Parcel Map Requirements

The parcel map shall be prepared by, or under the direction of, a registered civil engineer or licensed land surveyor. It shall show the location of streets and property lines bounding the property, and shall conform to Items A1, A2, A4, A5 and all of the following provisions:

1. The exterior boundary of the land included within the subdivision shall be indicated by distinctive symbols and clearly so designated.

2. The map shall show the location of each parcel and its relation to surrounding surveys. If the map includes a "designated remainder" parcel or similar parcel and the gross area of the "designated remainder" parcel or similar parcel is five acres or more, that remainder parcel need not be shown on the map and its location need not be indicated as a matter or survey, but only by deed reference to the existing boundaries of the remainder parcel.

3. A parcel designated as "not a part" shall be deemed to be a "Designated remainder" for purposes of this section.

4. Subject to the provisions of Section 66436 of the California Government Code, a statement, signed and acknowledged by all parties having any record title interest in the real property subdivided, consenting to the preparation and recordation of the parcel map is required, except that less inclusive requirements may be provided by local ordinance.

   With respect to a division of land into four or fewer parcels, where dedications or offers of dedications are not required, the statement shall be signed and acknowledged by the subdivider only. If the subdivider does not have a record title ownership interest in the property to be divided, the local agency may require that the subdivider provide the local agency with satisfactory evidence that the persons with record title ownership have consented to the proposed division. For purposes of this paragraph, "record title ownership" shall mean fee title of record unless a leasehold interest is to be divided, in which case "record title ownership" shall mean ownership of record of the leasehold interest. "Record title ownership" does not include ownership of mineral rights or other subsurface interests which have been severed from ownership of the surface.

5. On and after January 1, 1987, no additional survey and map requirements shall be included on a parcel map which do not affect record title interests. However, the map shall contain a notation of reference to survey and map information required by a local ordinance adopted pursuant to Section 66434.2 of the California Government Code.

6. Whenever a certificate or acknowledgment is made by separate instrument, there shall appear on the final map a reference to the separately recorded document. This reference shall be completed by the county recorder pursuant to Section 66468.1 of the California Government Code.

7. If a field survey was performed, the parcel map shall contain a statement by the engineer or surveyor responsible for the preparation of the map that states that all monuments are of the character and occupy the positions indicated, or that they will be set in those positions on or before a specified date, and that the monuments are, or will be, sufficient to enable the survey to be retraced.

8. Typical parcel map layouts are shown on Pages 29-48 through 29-56.

See Chapter 50 of this Manual regarding obtaining copies of standard parcel map sheets.

VI. Standard Types of Certificates, Statements, Notes and Acknowledgements

Certificate statements and acknowledgments are placed on either tract or parcel maps as required. Statements are located as follows:

A. Engineer's or Surveyor's Certificates are on Page 29-57.
B. Owner's Certificates are on Page 29-58.
C. Dedications are on Pages 29-59 through 29-62.
D. Acknowledgements in accordance to Section 1189 of the Civil code are on Page 29-63.
E. Sample Notes are on Pages 29-64 through 29-69.
F. Sample Public Utility/Public Entity Letters are on Page 29-70.
G. Sample Subdividers Certification for Public Utility/Public Entity Letters are on Page 29-71.

VII. Special Conditions for Filing of Subdivision Maps for Condominiums

Subdivision maps of condominiums are filed in the following way: A final map of the real property and the subsequent filing of the diagrammatics as Official Records. For layouts of typical subdivision maps for condominiums, please see Pages 29-72 through 29-76.

VIII. Preliminary Title Reports

All subdivisions must have a preliminary title report before they can be accepted for review by this Department. This title report must be prepared by a title insurance company licensed by the state to do this work. The report must contain all encumbrances on the property such as a list of owners, beneficiaries, trustees, easement holders, etc.

If there are any existing or proposed easements in the subdivision, the engineer must inspect the site and submit an "Easement with Structures Letter" (Formerly "Section 21.28.040 Letter). (See Page 29-78.) If structures are within these easements, the structure must be removed or the easement boundaries revised so that the structure is not within the easement.

IX. Deeds

All subdivisions for review must be accompanied by a readable reproduction of a recorded deed for the property that is being subdivided. The new tract or parcel number must be marked on the copy.

X. Survey Requirements

Most subdivisions require some surveying. If required the following standards must be met:

A. Standards for Survey Work

The procedure and practice of all survey work done on any division of land, whether for preparation of a final tract map or parcel map, shall conform to the standards and details set forth in Chapter 15, Division 3, of the Business and Professions Code (Land Surveyors Act). The allowable error of closure of any portion of a final tract map or parcel map shall be 1/10,000.

In the event that the Director of Public Works, the State Highway Engineer or any city engineer shall have established the centerline of any street or alley, in or adjoining a division of land, the final tract map or parcel map shall show such centerline, together with reference to a field book or map showing such centerlines and the monuments which determines its position. If determined by ties, that fact shall be stated on the final tract map or parcel map.

B. Boundary Monuments

Each final tract map or parcel map shall show durable monuments found or set at or near each boundary corner and at intermediate points, approximately 1,000 feet apart, or at such lesser distances as may be made necessary by topography or culture to insure accuracy in the reestablishment of any point or line without unreasonable difficulty. The precise position and the character of each such monument shall be shown on such map.

All boundary monuments shall include the following:

1. They shall be tagged with the registration or license number of the engineer or surveyor who signed the map.

2. They shall not be less substantial than an iron pipe of a 2" diameter, not less than 30" in length, with plug and tack, and set at least 24" into the ground or of such other character and stability as may be approved by the County Engineer.

   Acceptable substitute monuments are:

   a. A lead, tack and tag (LT&T) set in concrete.

   b. A 6" spike, stamped washer and tin (SW&T) set in macadam.

   c. Any other substitutes should be approved prior to setting.

3. Set all 2" iron pipes (IP's) to the depth stated in the depth of monument note.

C. Street Centerline Monuments

Whenever necessary in the opinion of the Director of Public Works, centerline monuments shall be set to mark the intersection of streets, intersections of streets with the tract boundary or to mark either the beginning and end of curves or the points of intersection of tangents thereof, or other intermediate points.

Each centerline monument shall consist of the following:

1. Each centerline monument or each tie point shall be tagged with the registration or license number of the engineer or surveyor who signed the map.

2. Each centerline monument shall be not less durable than:

   a. A spike at least 6" in length, with tin or washer, set in macadam.

   b. A lead and tack set in concrete.

   c. A 2" IP set not less than 12" below the surface of an unimproved, graveled or oiled surface.

3. If a spike is used as a centerline monument, it must be at least 6" in length with a tin and if tagged a large washer stamped with the registration or license number of the engineer or surveyor who signed the map, must be set.

4. A minimum of 3 tie points are required to be set for each centerline monument. They must be within the right-of-way but out of the traveled roadway.

5. Acceptable tie points are:

    a. A lead and tack set in concrete.

    b. A spike, at least 6-inches in length, and tin or washer set in macadam.

    c. A 2-inch x 2-inch wooden stake set in an unsurfaced area.

    d. A deep chisel cross when the centerline monument has been tagged.

6. Not acceptable tie points are:

    a. A chisel cross when the centerline monument is not tagged.

    b. Points in power poles (PUC Rule 90.5) or in trees.

    c. Points set in the traveled roadway.

D. Boundary Monuments Including Time for Setting and Deferment Conditions

All boundary monuments shall be set prior to filing of the final tract map or parcel map unless extensive grading operations or improvement work makes it impractical to set monuments. In the event any of the boundary monuments required are to be set subsequent to filing of the parcel map or final map, the engineer or surveyor making the survey shall furnish evidence acceptable to the Director of Public Works at the time the map is submitted for checking. Interior street centerline monuments may be set subsequent to filing of the map. The map shall show which monuments are in place and are to be set. Prior to approval of the final map by the Board of Supervisors or of a parcel map by the advisory agency, the subdivider shall submit a written agreement and a surety bond in which he agrees that the monuments so deferred will be set within a specified time, and that the notes required in Item VI.A on Page 29-9 will be furnished within a specified time.

E. Inspection and Approval of Monuments

All monuments within County unincorporated areas shall be subject to inspection and approval of the Department of Public Works Survey Division. Those monuments within contract cities may be subject to their inspection and approval depending upon their agreement with the County.

XI. Road Widths and Other Access Standards

All items on a subdivision map that involve highways, streets, roads and alleys, will be found in Chapter 44 of this Manual. The Final subdivision map must show the road widths as established by the standards in that chapter.

If future streets are required for future division of the property, the location, width and extent of such street shall be shown on the final map in accordance with Section 21.24.120 of Title 21 of the County Code.

If private streets are permitted, they shall be shown on the final map in accordance with Section 21.28.060 of Title 21 of the County Code.

Access within mobile home divisions of land shall be in accordance with Section 21.24.200 of Title 21 of the County Code. The requirements for pedestrian ways and their design requirements are in Section 21.24.210 of the same title. It is the responsibility of the

Forester and Fire Warden to require Fire-Fighting Access Easement in accordance with the requirements of Section 21.24.220 of the same Title, and Section 10.207 of Title 32 of the County Code.

XII. Lot Requirements

All lots within a subdivision must meet the requirements of Title 21 of the County Code, Subdivision Code. (See Chapter 51, Part IV, regarding obtaining copies of that Code. Part 4-Chapter 21.24, Lots, is devoted to the lot configurations. Part 5-Chapter 21.24, Special Requirements, is devoted to special conditions.)

XIII. Local Park Space Obligation for Residential Subdivisions

The subdivider of a residential subdivision shall provide local park space to serve the subdivision, pay a fee in lieu of the provisions of such park land in accordance with the provisions of Title 21 of the County Code, provide local park space containing less than (the required obligation but developed with amenities equal in value to) the park fee or do a combination of the above in accordance with the requirements of this title.

The County Department of Parks and Recreation is responsible for administrating this part of the Subdivision Code and sets policies regarding accepting park land and other fees. For further information, call the Capital Projects Division of that Department at (213) 738-2960.

XIV. Improvements

The subdivider shall improve, or agree to improve, in accordance with the Code requirements discussed in Chapter 62 of this Manual all land dedicated or to be dedicated on a final map or parcel map, or by separate instrument. This includes all roads and easements and all private roads and private easements laid out on a final map or parcel map, with those improvements, including sanitary sewers, needed for the general use of the lot owners in the division of land, and for neighborhood traffic and drainage. This section does not require:

A. Improvements to flood-control channels, which improvements are not solely for the benefit of the divisions of land;

B. Improvement to freeways;

C. Improvements excepted by the provisions in Chapter 38 of this Manual.

If any improvements are not completed to the satisfaction of the Director of Public Works, and/or Director of Parks and Recreation before the final tract map or parcel map is filed, the subdivider shall, prior to the approval by the Board of Supervisors of the final map, enter as contractor into an agreement with the County of Los Angeles to complete such work within the time specified in such agreement.

The procedures for processing bonds and agreements are described in Chapter 13 of this Manual.

Special conditions regarding subdivision improvements are presented in Chapter 21.32 of the County Code, Subdivision Code. The detailed requirements and design standards for the various types of improvements are covered through out Part III of this Manual.

A. The following are special conditions regarding improvement requirements:

1. Installation and Construction Costs

The cost of installing pipes and other facilities for the transmission of water may be paid for in whole or in part from revenues collected from the customers served at regular established water rates for the water company pursuant to regulations of the Public Utilities Commission where applicable, or by a public agency, as defined in Section 4401 of the California Government Code, from the net operating income only, as payment for the sale of water thereto.

The subdivider may be reimbursed for a portion of his costs as provided in Sections 66486 and 66487 of the California Government Code or other reimbursement enabling acts.

Except for assessments authorized after tentative map approval for the financing and completion of improvements required of the subdivider, all outstanding or remaining assessments on the land of the subdivision established for improvements contracted under special assessment district proceedings shall be paid by the subdivider.

2. Requirements for Lot Sizes in Excess of 10 Acres

Where each parcel resulting from a division of land has a minimum gross area of 20 acres or is one-half part of a quarter-quarter-quarter section, resulting from the normal division of an undersized section of land no improvements shall be required. Where each parcel resulting from a division of land has a minimum gross area of 10 acres or is a quarter-quarter-quarter section resulting from the normal division of an undersized section of and having a minimum gross area of nine acres, and the entire division of land is zoned A-1, A-2 or D-2 by Title 22 of the County Code (Zoning Code), streets or highways which traverse sloping terrain shall be graded in accordance with engineering plans approved the Director of Public Works, unless all lots abutting any such street or highway are within an area zoned to have a required area of 10 acres or more by the Zoning Ordinance as set out by the Zoning Code. No other improvements shall be required (see Chapter 51, of this Manual).

3. Requirements for Minor Land Divisions

Improvements shall not be required as a condition precedent to filing a parcel map on a minor land division where the advisory agency finds that the existing systems and improvements adequately serve adjacent developed parcels, unless such improvements are necessary for the development of parcels within the division of land or are necessary to be consistent with the General Plan.

Except as otherwise provided in this section and Item 2, no improvements shall be required when all lots shown on a parcel map of a minor land division have a gross area of five acres or more and are within a single-family residential or agricultural zone, or within a desert-mountain zone and used for residential or agricultural purposes.

As used in this section, the term "improvement" does not refer to required survey monuments.

On all parcel maps of five acre lot size or more, the following note shall be placed: "Further division of this property to lot sizes below five acres will require standard improvements be completed as a condition of approval. The improvements will include but not limited to providing access, installation of water mains,

appurtenances and fire hydrants, and conformance to standard Los Angeles County development standards".

B. The following are the requirements for general subdivision improvements:

1. Road Improvements are described in Item IV of Chapter 44 of this Manual.

2. Water Mains, Appurtenances and Fire Hydrants are described in Chapter 48 of this Manual.

3. Sewer or Drainage Improvements and Studies

All plans for Sanitary Sewers shall comply with the minimum standards described in Chapters 46 and 47 of this Manual. All plans and studies for drainage facilities shall comply with the minimum standards described in Chapters 32 through 43 of this Manual.

Sanitary sewer or drainage improvements installed by the subdivider for the benefit of the division of land may be required to contain supplemental size, capacity, length, depth or number, or be altered in location, for the benefit of property not within the division of land in order to facilitate the orderly development of the surrounding area in a manner consistent with the policies of the General Plan. Such improvements shall be dedicated to the public. The Board of Supervisors shall enter into an agreement to provide for the payment of reimbursement to the subdivider and the collection of charges from the property benefitted by the supplemental improvements, in conformance with applicable state laws.

4. Street Lighting is described in Item V of Chapter 44, of this Manual.

5. Street Tree Planting is described in Item VI of Chapter 44, of this Manual.

6. Sidewalk requirements are described in Item VII of Chapter 44, of this Manual.

XV. Bonds, Agreements and Deposits

Before commencing any improvement or requesting the issuance of a final clearance, the subdivider shall deposit funds as required in Part II of this Manual and complete agreements and submit bonds as required in Chapter 13 and other Chapters in Part II of this manual. This is to satisfy the requirements of Chapter 21.36 of Title 21 of the County Code (Subdivision Code).

XVI. Waiver Conditions and Modifications

Conditions allowing and procedures for obtaining a waiver of the requirement that a parcel map be filed are described in Part 2 - Chapter 21.48 of Title 21 of the County Code. All permissible modifications to the provisions of the Subdivision Codes, to fees and to recorded maps are described in Chapter 21.52 of Title 21 of the County Code. Approval of all waivers and modifications is done by the Department of Regional Planning.

XVII. Guidelines for Subdivision Map Checking

The guidelines listed below were prepared to aid the subdivision map checker and the subdivider in interpreting the correction items of the subdivision tract map correction list and the parcel map correction list. Both are shown in Chapter 12. If engineering or land surveying conditions have been imposed on the tentative subdivision map, those conditions shall be reviewed by an engineer or surveyor, as appropriate, to determine compliance with

generally accepted engineering or surveying practices (see Section 66474.10 of the California Government Code). The following guidelines utilize the numbers on the correction sheets which are the same on both lists:

1. When filing fees are paid, the amounts are deposited in the departmental trust account and are not transferable. Map Reviewers should advise the subdivider to pay the exact amount because excess deposit amounts will not be refunded.

   Filing fees are not required to be paid prior to transmitting a map to a city or prior to approval of a map by the Board of Supervisors. Filing fees are not required to be paid if a local agency is sole owner of property being subdivided.

2. Easement checking fees are not charged if easements of the local agency such as an incorporated City or the County are delineated on the final map. LACFCD, Sanitation District, Waterworks District and State of California easements are commonly mistaken for but are not easements of the local agency.

   The tax clearance processing fee is charged only once unless the subdivision boundary changes.

   The tax bond processing fee is required each time a tax bond is processed.

   If the tentative approval on a map expires and the map is reactivated, new processing fees shall be collected.

   The base map analysis fee is not refundable or transferable.

   All required processing fees must be paid prior to transmitting a map to a city or prior to approval of a map by the Board of Supervisors.

3. The drainage release letter is required when there is a change in drainage conditions on adjacent property and in conjunction with separate instrument offers of Private and/or Future Streets (see Chapter 30 regarding the preparation of this letter.

   The drainage release letter or note applies in almost all cases to City Engineer or County maps only.

   Drainage letters must be checked by the checker for proper execution and acknowledgement as soon as they are submitted.

4. Original tracings should be checked for size, legibility and original signatures (See Item V. Pages 29-7 through 29-9.)

5. When tracings are submitted, check size. It shall be 18" X 26" with a 1" margin all around. Allow + 1/8 inch discrepancy in the overall length or width (See Item V.A.2.on Page 29-7).

6. Check ink for permanency and legibility. If ink is not permanent in nature it may be necessary to re-do the map on a properly prepared surface or it may be sprayed with a clear coating to assure permanency (see Item V.A.1 on Page 29-7).

7. Check notary seals for legibility (see Item V.A.1 on Page 29-7). If seal is legible but too light to reproduce, a perjury statement signed by the engineer may be shown next to the seal. See below. If seal is illegible, obliterated or altered with ink or pencil it shall be re-stamped.

For signatures acknowledged after January 1, 1987, a notary seal will not be required so long as the name of the notary, the county of the notary's principal place of business and the notary's commission expiration date are typed or printed below the notary's signature in the acknowledgement per section 66436 of the State Subdivision Map Act.

The perjury statement from Section 27361.7 of the California Government Code required in the first paragraph is as follows:

GOVERNMENT CODE SECTION 27361.7

I certify under the penalty of perjury that the notary seal on the document to which this statement is attached reads as follows:

Name of Notary

_____

Date Commission Expires

_____

Place of Execution _____ Date _____

_____

Signature (Firm name if any)

8. Check scale of map and any detail(s). The scale must be of a size that will show all details and dimensioning clearly in accordance with Items V.A.2. or V.B.2. on Pages 29-7 and 29-8. Details do not have to be drawn to scale if a note to this effect is shown next to the detail.

   Scale can be shown on the title sheet if it agrees with all map sheet(s).

   Scale can be shown anywhere on the title sheet or map sheets.

   Bar scale is allowed only if accompanied by a standard scale.

9. Check arrow for correct orientation. It must be in accordance with the requirements in Item V.A.5. on Page 29-7. Details must also have a north arrow if its orientation is different from the main map.

10. Check number of sheets and see that each sheet is noted "sheet ___ of ___ sheet(s)." Title sheet should be "sheet 1 of ___ sheet(s)" in accordance with Item V.A.2. on Page 29-7.

    Sheet numbering, i.e., sheet 1 of 2 sheets, sheet 1 of 2, consisting of one sheet, etc., is satisfactory and need not be in the upper right corner of map.

11. Check title on all sheets. Tract No. or Parcel Map No. and location (unincorporated territory or city) must be shown. "State of California" is not required to be shown in the title on any sheet.

    See Items VIII and IX beginning on Page 29-9.

If a subdivision is vested, the following may be noted on the final map as follows:

a. On "Los Angeles City" type maps and/or "contract city" maps:

   The word "vesting" may be placed over or under Tract or Parcel Map No.

b. On "County" or "City Engineer" maps:

   Put word "vesting" over Tract or Parcel Map No.

12. Check subtitle using Assessor's map as a guide. The subtitle shall consist of a description of all the property being subdivided, by reference to such map or maps underlying said property filed or recorded in the office of the County Recorder or County Clerk or by reference to a government plat. Each reference shall be worded and spelled out identically with the original record thereof and must show a complete reference to the book and page(s) of records.

    Do not use Los Angeles County Assessor's (LACA) map in the subtitle or for labeling on the subdivision boundary unless a legal deed is provided which agrees exactly with parcels shown on the LACA map. In the subtitle, references should be made to the smallest breakdown per the government plat (normally a quarter section of government lot). References to a further breakdown, i.e., quarter-quarter section, will be allowed if correct.

    On map sheets or notes, the "No." in Tract No. and Parcel Map No. does not have to appear. In subtitle, however, "No." must be shown.

    For example:

    Subtitle: Tract No. 12345 or Parcel Map No. 12345
    Notes: Tract 12345 or Parcel Map 12345

    In sectionalized property, the Township and Range is required in the subtitle only.

    Reference to a parcel as shown on a Record of Survey is allowed only if the Record of Survey was approved for subdivision purposes.

13. If the property being subdivided includes a vacated street originally dedicated by a map, reference must be made in the subtitle to the street as shown on said map, along with the resolution number and/or book and page of the recorded document that vacated the street.

    If a subdivision includes a vacated street that was not originally dedicated by a map, no reference is made to the vacated street in the subtitle. Reference will be made instead to that portion of the underlying record that was deeded for street purposes.

    A street being abandoned pursuant to Section 66499.20-1/2 of the California Government Code, must be referenced in the subtitle if said street was dedicated on a tract or parcel map. A street created by a deed does not need to be referenced in the subtitle but the land underlying the easement must be referenced. If the surveyor/engineer also shows the street and deed reference in the subtitle it does not have to be deleted.

14. If the subdivision includes an off-site easement dedication, reference to it is made in the subtitle only if the off-site dedication falls within a different jurisdiction or if it falls outside of the underlying legal reference of the subdivision. E.g. if all of Lot 1 of Tract

No. 54321 is being subdivided and the off-site easement dedication lies within another lot, the subtitle should include "... and the dedication of an easement over a portion of Lot ___, etc. ..."

A street dedication is considered an off-site dedication if it lies within a different jurisdiction or if the property is owned by a different party and the party is signing only for the dedication.

If the off-site dedication is for street purposes the subtitle should include "... together with the dedication of an off-site easement within a portion of Lot ___ for street purposes, etc. ..."

Off-site easement dedications are indicated on the final map by a distinctive border shown completely along the inside of the easement boundary. The distinctive border will be shown on both sides of the boundary common to both the easement and the subdivision.

Off-site access easements that are required to be shown per the conditions of approval do not have to show bearings and distances along the whole easement. The reference of the easement must be shown with ties where the easement meets the boundary and the general area where it meets the dedicated street. This off-site access easement is not referenced in the subtitle since it is not being dedicated to the local agency.

15. The purpose of the subdivision should be shown on each sheet of the map below the title or subtitle. That is "For Condominium Purposes" or "For Lease Purposes Only." "For Subdivision Purposes" need not be shown and should be discouraged. (If the surveyor/engineer insists on showing it, we will allow it since it is technically correct).

    If a Condominium Map records and is approved for five units, nothing prohibits owner from building apartments with ten rental units as long as zoning permits such density. The approval of the Condominium Map merely gives permission to sell condos on the land.

    If a tract is filed as a condominium project for 15 units, and the subdivider wants to build a lesser amount of units, it is permissible because 15 is the maximum allowed. If diagrammatics were previously recorded, then amended diagrametrics must be recorded. Requires local agency approval.

16.&17. The distinctive border legend may be shown just once on the title sheet or it may be shown on all of the map sheets.

18. Divisions on a tract map are called lots. Divisions on a parcel map are called parcels.

    Lot or parcel numbers should be shown only once on a final map and should not be repeated unless referred to as "detail of lot (pcl) _____."

    Numbers should be shown on the final map as a solid figure (i.e. ghost drafting, dotted or double line figures are unacceptable).

19. The boundary of a subdivision already labeled with an adjacent subdivision reference does not normally need to have a deed referenced to said boundary. The reference to the adjacent boundary line should reflect the most recent adjacent subdivision.

    If the boundary is a "cut" line or "deed" line, it should be labeled by a grant deed reference. If a grant deed does not exist, then any recorded document including leases, may be used for a boundary reference.

Reference can be made to a boundary of a parcel in a waiver or certificate of compliance provided the remaining parcel(s) described in the document is (are) shown as "Not A Part" with the following note: "This Not A Part area must be conveyed in conformance with the description shown as pcl _____ (and pcl ____) in (Doc_ref.).

If a deed reference is shown as a document number and recording date, the term official records or the abbreviation O.R. will not be required to be shown. On any deed, the term "Records of Los Angeles County" is not required except where the deed is shown in the subtitle. Deeds recorded on or after January 1, 1977, will not have to show the recording date each time the deed is referenced. However, it must be indicated once some place on the map for each deed reference.

If the subdivision lies entirely in one tract or parcel map, the Map Book (MB) or Parcel Map Book (PMB) reference does not need to be repeated on notes on the title sheet or map sheets. If the MB or PMB reference is used in the notes, the tract or parcel map number does not need to be repeated. If a subdivision covers all of one lot or parcel of a tract, parcel map, or approved record of survey, no boundary reference needs to be shown.

In sectionalized property, the Township and Range is required in the subtitle only.

20. The delineation of a "Not A Part" area is required only to depict the area of the remainder of an approved tentative subdivision map. On Tracts where there are units filed, the units filed as shown on an index map to depict the "Not A Part" areas need not show the streets within the filed units.

21. See Item #22 for dimensioning of "Remainder Parcel". The above applies to all maps in Cities, Cities where the Director of Public Works is City Engineer or in unincorporated County territory.

22. "Not A Part" or "Remainder Parcel" areas delineated in conformance with the conditions of approval or the State Subdivision Map Act must be completely dimensioned, established, and labeled if less than 5 acres. If 5 acres or more, it must be pictorially shown to scale with labeling of the lines. Distances are needed on two lines (basically north-south and east-west to give an idea of the extent of the Not A Part area). Also dimensions are required along the lines that are not to scale and lines which are not lines of record.

    Show the remainder of the approved tentative map as "Not A Part".

    On Tracts where units are filed, the units filed as shown on an index map to depict the "Not A Part" areas need not show the streets within the filed units.

23. Lot/Parcel numbers should not be repeated on adjoining sheets.

24 & 25. A subdivision map checker must compare Subdivision Committee meeting notes with typewritten conditions. If there is a discrepancy between the two and map complies with more restrictive conditions there is no need for change in the typewritten conditions or an inadvertent letter of clarification issued by Regional Planning Department. If the map complies with less restrictive conditions and typewritten conditions show the more restrictive condition, then the typewritten conditions need modifications or an inadvertent letter from Regional Planning Commission is required. If the map complies with less restrictive conditions and the typewritten conditions shows the less restrictive conditions than the meeting notes then the checker must get verbal verification that the typewritten conditions are correct.

On City Engineer maps, when typewritten conditions of approval are received from the City, it is the checker's responsibility to verify if required clearances are shown correctly on the kardex card. He/she must also resolve those marked with a question mark. He/she must make changes on the kardex card and get map prints to the affected division or department if necessary.

On Parent Tracts where there are paseos (walkways) that are shown as lots and if unit tracts are filed for record where said paseos lots are cut up, approval must be given in the conditions of approval. (Permission to revise or add lots must be to the satisfaction of Regional Planning Department (RPD).

26. Complete copies of all deeds, field book pages and other documents/information referenced on the subdivision map not available at the Department of Public Works must be submitted by the surveyor/engineer.

27. Establishment of all easements, boundary lines and/or corners.

Proportioning notes need not be fully explained on the subdivision map, i.e., along and between, if lines used for proportioning are labeled and dimensioned.

If a corner or a line of a map is labeled as such, and is established by proportioning or record, the phrase "per said map" is not required if the map referenced in the labeling is the map being used for the establishment.

General notes for establishment, labeling of boundaries, etc., will be permitted.

The method of establishment need not be shown on the final map if it is stated in the establishment note and we can follow the establishment on the surveyor's/engineer's hard copy or from the filed/recorded survey information in the area. The hard copy must clearly indicate how lines were established. If the hard copy does not show the necessary information then it should be rejected.

If the location of a boundary will not change by more than .05 feet when established by proportion or record, then either method of establishment will be acceptable even though it may not be consistent with another method already established in the block.

If proration is used:

a. We encourage, but cannot require block surveys.

b. If a line of occupation is shown on a map that was filed at the time the second surveyor/engineer did his/her survey, the second map should stop at the line of occupation or substantiate by showing/stating on the map why the line of occupation was not accepted. Line of occupation is defined as:

   1/ A monumented line which had been there for a sufficient time or has been used by other surveys.

   2/ Physical occupation.

If we are checking more than one subdivision map in a block and one surveyor/engineer is using a line of occupation and others are not, we will encourage other surveyors/engineers to use the line of occupation on their map although we cannot require it.

If two maps are adjacent to each other, the same monuments should show at any common points. If maps cannot agree on a common location, the second map filing must address any differences and show/state on the map why the other's location was not accepted.

If a boundary deed recites a half of a lot on the subdivision map with no indication of how the other half is to be created, the half should be by area with the dividing line established by one of the following generalized principles:

1/ When easterly half of a lot is conveyed and the westerly half (remainder) has not been conveyed, the dividing line is made parallel to the easterly line of the lot.

2/ When the easterly and westerly lines of a lot are shown as parallel on the original map, and in fact are nearly parallel, and the easterly half and westerly half are conveyed, the dividing line between the easterly and westerly half is made on the mean bearing of the two lines.

3/ When a deed reads "East one-half of lot 1" and the second deed reads "lot 1, except the east one-half", it is commonly assumed that the west line of the east one-half is parallel with the east line of the lot, provided the east line of the lot is nearly in a cardinal direction.

4/ When the easterly and westerly lines of a lot are not parallel or in a true north direction and the lot is divided into the east half and west half, make the dividing line run north and south.

The surveyor/engineer should check with the title company to determine which half was originally conveyed first. The map should conform to the applicable principle and the boundary should be labeled with a deed with the senior description. (Not necessarily the senior deed.) If the map does not conform to the applicable principle and the surveyor/engineer is not willing to change, an exchange of quitclaims is required. If an exchange of quitclaims cannot be obtained, a quitclaim from the owner(s) of the map to the adjacent owner(s) is required.

When a "split" is used in establishing a street, railroad right of way, etc., the actual split and distances to the physical curb, rail, etc. can be shown or a note to the fact that a split was used to establish the location of the centerline together with setting acceptable monuments on the centerline is permissible.

Split distances should be shown in at least two locations along the line being established. Distances should be shown to the nearest hundredth.

Proration is allowed on a compiled map.

For the establishment of a boundary line that is an interior lot line, it is optional to prorate or establish at record angle(s) and distance(s) when compiling from record data. If the parcel map adjoins a recently recorded map (in same block) the method of establishment of the common boundary must be identical; i.e., prorate if boundary was previously prorated. If establishment of a boundary is by record angle and distance, and the parcel map does not adjoin another previously recorded subdivision in the block a discrepancy of .03 feet between record data map and actual record may be allowed.

When compiling from a County Survey (C.S.) or County Survey Book (C.S.B.), show all record data per the record data map. Missing lines may be established from survey data on "checked" field book pages or from other record maps using the record data map as the basis of bearings.

Any record angle or distance per recorded map, filed map or checked field book page, may be used to establish a line even if the resultant bearings and distances are different from those shown on the record data map.

In a section breakdown all loops created must close 1:10,000. Adjustments to non-record bearings and distances, by any method may be made in order to meet this requirement, e.g., if only perimeter section line data is available, the quarter section lines may be computed then adjusted by any method so that closure falls within 1:10,000.

28. Hard copy (Establishment Sketch and Information) and calculations are required whenever the complete establishment of a line cannot be shown on a map due to space limitation or if needed for substantiation of data shown on the final map. It is also needed to satisfy map submittal requirements.

29. Reference material is required to be submitted pursuant to Section 21.44.050, Title 21 of the County Code.

30. If distances approach discrepancies exceeding 1' in 1000' with other survey information. The surveyor/engineer should verify his/her distances.

31. Reference material is required to be submitted pursuant to Section 21.44.050, Title 21 of the County Code.

32. California Coordinate System by CALTRANS - The Zone 7 coordinate system is predominantly used in Los Angeles County. Conversion factors may be obtained from the Survey Division on the third floor. Most of the County Surveyor's maps and the State highway maps are based on Zone 7 coordinates.

33. The basis of bearings can be from any map. This basis does not need to be from a map based upon a field survey or does not have to be based upon a monumented line. A basis of bearings which is based on a street of uniform width need not be indicated if it is based on the centerline or sideline. A basis of bearing based on the centerline when the filed map of record does not show a centerline will be acceptable.

34 & 35. Monumentation on the second map must meet the following criteria when the first map had deferred monuments (See Item, X.D on Page 29-11):

a. If the surveyor/engineer is the same as on the original map, surveyor/engineer of the second map must set or the subdivider/owner post security for the second map if the agreement or default judgment period as extended on the first map has expired.

b. If the second map is done by a different surveyor/engineer, the surveyor/engineer of the second map must set or post security on the second map if the principal, surety, or surveyor/engineer is no longer in existence or if the agreement is beyond the statute of limitations period (six years from filing date of final map).

A point may be labeled "location of ____ to set per ____" only if the surveyor/engineer is making reference to his/her own deferred monument by another map.

If another surveyor/engineer references a monument to be set by someone else he/she must state his/her specific method of establishment of the point in addition to labeling it "location of ... etc."

Found monuments with "no reference" should be labeled "accepted as" points if in fact the un-referenced monuments are the primary means of establishment.

Additional references or the most recent reference to a found monument is not required provided the character and location of the monument is correct. CSFB and CEFB are interchangeable abbreviations for County Surveyor and County Engineer field books.

Legible symbols, i.e., 1 or A, which would not be obliterated in microfilming may be used to indicate set, found, or deferred monuments, existing easements, etc. A legend does not need to appear on each sheet.

Two found monuments on a street up to 1000 feet apart and within line of sight of each other and straddling the property will be acceptable to meet the one side monumented criteria.

Private and Future streets must be monumented. The same standards for public streets will apply.

Not A Part or remainder parcel areas are not required to be monumented.

The terminology Spike, Washer & Tin (SW&T), S&T, S&W, are abbreviations and will be considered as synonymous and interchangeable.

36. Boundary establishment must be acceptable prior to map being sent out for monument inspection. Checker should give our monument inspection processor the monument inspection print as soon as he/she is satisfied with the boundary establishment and character of monuments. Another print should be given to the processor if there are any changes in the boundary monuments or boundary location.

    Tagged "no reference" boundary control monuments must be inspected. Untagged "no reference" boundary control monuments must be tagged and inspected.

    The alternate monument inspection letter will be accepted from the surveyor/engineer. However, the monument inspection fee will still be required for processing of paperwork, field notes, etc. and for random inspections.

37. County maps and City Engineer maps. Checker should estimate the monument security amount and fill in the appropriate space on the kardex card (see Chapter 12 of this Manual).

    The security amount is estimated by multiplying the number of deferred monuments by an amount set by the Land Development Division and adding it to a base fee also determined by the this Division (see Chapter 12 of this Manual).

    The County will not accept a faithful performance surety bond as security for setting monuments. Only negotiable securities are acceptable on County maps.

38. Data may be compiled from any recorded map which closes within allowable limits. There is no need to compare with adjacent records.

    A compiled map may be used as record data map.

    A Filed Map (FM) may be used to compile from as long as it is not obviously just a deed map or deed picture. The FM must be based on field surveyed data.

    Record of Survey (RS) maps, not approved for subdivision purposes, may be used for compilation. However, the parcel lines of the RS cannot be used to reference the parcel lines. The parcel lines must be referenced as deed lines or other record lines.

If record data consists of two or more recorded maps, record data note should reflect only the map(s) from which exact bearings (unrotated) and distances are taken from.

A map that does not show bearings on boundary, street or lot lines cannot be used as a record map for compiling unless there is another recorded map which shows the angular relationship of said lines. Record data note will then show both map references. (MR 15-89-90, by itself, cannot be used for compiling.)

If compiling from a map where the record data has been changed by a certificate of correction, the record data note should be modified to read: Record data is .... as modified by Document Number _____, recorded on _____.

39. Unreferenced found monuments are acceptable to fulfill the requirements of Section 66448, of the California Government Code. This Section 66448 requires an existing monumented line to be shown on a compiled map. This implies that monuments shown for the establishment of a line must be found. The line does not have to be a boundary line of the map.

40. Street suffixes can be abbreviated except for streets being dedicated or widened. Street width on streets not adjacent to the boundary are not required. Street widths and centerlines on streets opposite the subdivision are not required, unless needed to show that no centerline jog exists. If a street name extends into a street intersection, it does not need to be moved out of the intersection. A street name does not have to be spread out over the length of the street.

When delineating street widths, overall street widths should include the widening being dedicated by the subdivision.

A surveyor/engineer is allowed to show the deed reference for a dedicated street if he/she desires.

If one sideline of a street is shown as a solid line, it must be the true depiction of its configuration. (Watch for intersecting alleys or other streets and jogs.)

The existing full width and true configuration of streets adjacent to the distinctive border must be shown with solid lines.

The words "(Private Street)" or "(Private and Future Street)" do not need to be placed between the street name and the suffix. [Main Street (Private and Future Street) would be acceptable.]

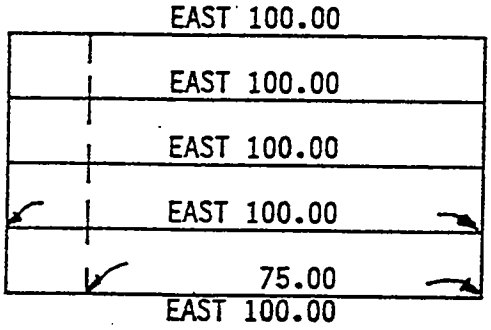
On County Tracts or Parcel Maps, the squad leader or checker must call street name section (prior to going to Board or recordation) to check if there are any changes from the clearance or report sent by them. If there are no changes and everything is okay, checker or squad leader must circle the word street names on the kardex card.

Widths of "private driveways" can be changed after recordation if conditions of approval did not specify exact width, and Regional Planning Commission and Fire Department did approve said change. A certificate of correction may be recorded.

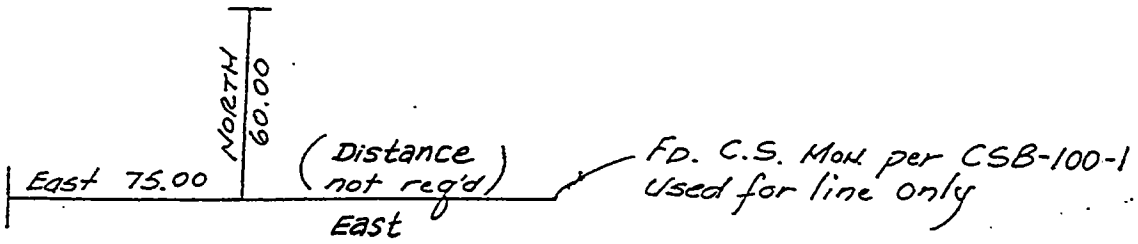
Railroad right-of-way lines and Flood Control channels adjacent to subdivisions need not be shown if surveyor/engineer objects to showing them, unless conditions of approval require them to be shown. There is no requirement in the State Subdivision Map Act or the Subdivision Code that they have to be shown.

41. Tabulated data is permitted on the map. Any numbering system is acceptable provided the tabulation is on the same sheet as the drawing. Each sheet may start with tabulation number 1 or a sheet could have numbers continuing from a previous sheet. Numbers can be duplicated on different sheets and numbers do not have to be consecutive. A legible symbol i.e.: 0, [], (), etc., must be shown around the number when dimensioning the line. The letters "L", "T", and "R" may not be used unless they refer to a length, tangent distance, or radius respectively.

    Arrows are not required unless the dimension crosses a solid line or a dash in a dashed line. (See below.)



    Distance need not be shown if the note at the found monument indicates it was used for control of line or direction only. (See below.)



    The bearing on the side of a street or easement will not be required if the centerline bearing and two widths are shown.

    All street centerlines, subdivision boundary lines, lot lines and block lines must be dimensioned. However, either the bearing or distance may be omitted from each interior parallel lot line in a series of lots having the same dimensions. Ditto marks shall not be used for dimensioning.

42. Centerline tangent distances do not need to be shown unless monumenting or finding a monument at the Point of Intersection (PI).

    The length, radius, and central angle or the length, radius and bearing of each radial line to each lot corner or B.C. and E.C. on each curve, shall be shown.

43. Final tract and parcel maps are to show area designations upon each lot/parcel to the nearest square foot if the lot area is under three acres. For lots/parcels with an area of three acres or more, the designation shall be shown to the nearest one-hundredth (1/100) of an acre.

    Slope deductions from Gross areas apply only to public slopes (next to streets, etc.) and not to private slopes (planting, etc.). Therefore private slope easements are not to be deducted.

44. Calculations for Required Zoning Area (Does not appear on the final map).

a. For zoning designations which are less than 1 acre, area is computed to the boundary of each lot and/or sidelines of streets (dedicated, private, and/or future).

1/ If the fee title underlying a street easement is in the ownership of the lot, the following areas can be included in computing the required area.

a/ The alternate cross section area.
b/ The corner cutoff area of a corner lot or parcel.

2/ Flag strips less than 40 feet in width if used for ingress and egress and/or ingress and egress easements that are reciprocal or used by others and are existing or to be reserved in documents cannot be included in computing the required area.

b. For zoning designations of 1 acre or more.

1/ Gross area is computed to the boundaries of each lot plus the area of dedicated streets if the fee title underlying the dedicated street is in the ownership of the lot.

2/ Net area is computed by deducting any street (dedicated, private, and/or future) from the gross area.

a/ If the title underlying a street easement is in the ownership of the lot, the following areas can be included in computing the required area.

1) The alternate cross section area.
2) The corner cutoff area of a corner lot or parcel.

b/ Flag strips less than 40 feet in width and/or ingress and egress easements that are reciprocal or used by others and are existing or to be reserved in document cannot be included in computing the required area.

c/ For density calculations in multiple residential lots, private driveways are included within the net area of a lot except:

1) In situations where the private driveway is the only means of access to another lot (whether within or outside the subdivision) those portions of the private driveway serving the other lot will be deducted from the net area.

2) Flag strips less than 40 feet in width and ingress and egress easements existing or to be reserved in documents cannot be included in computing the required area.

For areas which must appear on the final map, see Page 29-47.

45. If the detail shows a part of the subdivision boundary, that part must be shown with a distinctive border.

Lot numbers should not be repeated in a detail unless accompanied by the wording "detail of Lot ____." The scale of details must be shown or details may be drawn out of scale with the wording "not to scale."

Details must not be shown inside a lot or within the subdivision boundary if there is space elsewhere on the map sheet.

46. The city boundary symbol is a heavy line separated by two short dashed lines. The city boundary symbol with appropriate labeling is required to be shown if less than 1 lot width away or if adjacent to, or on centerline or on opposite sideline adjacent to the map.

    Notes labeling a city or county boundary are not required to be on same side as the city or county. The following forms are acceptable: City of _____, n'ly bandy of City of _____, _____ City limits, and s'ly bandy of _____. When direction is not shown (n'ly bandy, s'ly bandy, etc.), labeling should be shown on the side that the city or county is on. The County of Los Angeles' boundary is only labeled when abutting another county.

    Check with the Mapping and Property Management Division-Mapping Services Section for the latest new or proposed annexations.

47. Allowable error of closure is 1 in 10,000.

    If distances shown on a map differ from record by the ratio of 1' in 1,000', or greater, we will have the surveyor/engineer verify those distances (See Item X.A Page 29-9).

48. Mathematical traverse calculations must show the error of closure and area.

    Traverse calculations must be submitted with all 1st checks.

49. Centerline to sideline distances should be checked whenever such a relationship is shown on the map. This includes streets or other easements. Allow + .01 foot error per calculation. (Discretion should be used when applying this rule.)

    The checking of centerline sideline relationships by computing traverse closures should be done only if it is the only practical method.

50. The sum of parts of lengths along straight lines and curves must be checked against the overall lengths. For curves, the sum of parts of the overall angle must also be checked.

51. The surveyor's/engineer's certificate does not have to be shown verbatim as it appears in our standards for a tract. All of the necessary elements, however, must be stated. The certificate for a parcel map must agree with the Subdivision Map Act.

    Tract and parcel maps compiled or based upon a field survey must be signed by a Licensed Land Surveyor or a Registered Civil Engineer having a registration number of 33965 or lower.

    If a date is shown on the final map, it must agree with the date in the Surveyor's/Engineer's Certificate or be deleted.

52. Tract Maps Only

    If the surveyor/engineer signing the tract is different from what is shown on the kardex card, then a release letter from surveyor/engineer is required. This does not apply to parcel maps.

    Parcel Maps Only

    The record owner's note is required to be shown on all maps that do not have an owner's certificate.

53. The wording in the owner's certificate together with any dedication notes should be substantially in the same form as what we show in our standards (see Item VI.B Page 29-9. Certificate wording is on Page 29-58).

    For limited access rights dedications, where driveways are excepted, and as long as the driveway or driveway opening is shown and labeled, limits of dedication need not be labeled on the final map.

54. The wording for the easement dedication in the owner's certificate, the acceptance or rejection of the dedication in the local agency's certificate and the labeling of said easement on the final map should agree substantially.

    The use of wording in our standards should be strongly encouraged. (See Item VI.C. on Page 29-9. The wording is on Pages 29-59 through 29-62).

55. The requirements for slope easements will usually be indicated in the conditions of approval.

56. A signature which is more than what the vesting owner on the map shows is acceptable. The name in the acknowledgment must agree with the signature.

    If the owner is shown as So & So Co. on the preliminary guarantee and the title sheet shows the company being acknowledged as So & So Co., a Corporation, we will not ask for a revised report provided a final guarantee is issued for the map.

    Revised title reports should be requested whenever conflicting or erroneous information is evident. It is wiser to ask for a revised title report reflecting a questionable interest shown or not shown on the final map rather than requiring the map to reflect what's shown in the title report. The reason is obvious in that it is simpler to revise the report to correct an error rather than fix the map to reflect what might in fact be erroneous.

57. The purpose of existing easements must be shown in either the note on the map or in the signature omission note on the final subdivision map. It is not required to be shown in both places.

    We will allow a signature omission note for a local agency easement if it is already on the map.

    A signature omission note should not be shown for an interest being abandoned pursuant to Section 66499.20-1/2 of the California Government Code (Subdivision Map Act). If the final guarantee still shows the interest which is being abandoned by the map, the checker should place a note on the guarantee indicating that such interest is being abandoned by the map pursuant to said section.

    If the preliminary guarantee/title report shows both forms of the recording reference (Doc. No. and date, Book and Page), the signature omission note and the labeling of the easement on the final map need only show either form of the recording reference. If the preliminary guarantee/title report shows only one form of the recording reference, the signature omission note and the labeling of the easement on the final map can show both forms of the recording reference.

    If the preliminary guarantee/title report shows an easement interest with the name of the easement holder we will assume that the easement is still in use and signature(s) may be omitted under Section 66436 (a) 3A (I-VII) of the California Government Code.

The names of the easement or interest holders must show on the title report if omitted under Sections 66436 (a) 3A (I-VII), (a) 3B, (a) 3C and (a) 4 of that Code. In order for a signature to be omitted under Section 66436 (a) 3B, the title company must indicate in their report that it can be omitted under Section 66436 (a) 3B. If they do not, the signature must be omitted under Section 66436 (a) 3A (I-VII).

58. The Public Utility/Public Entity letter is required for all County and City Engineer city maps when an owner's certificate is shown.

    The alternate Public Utility/Public Entity letter, properly executed, covers all public utility or public entity easements affecting the subdivision. A separate letter for each easement will not be required.

    A utility company may occasionally send a public utility letter which sets conditions that are not in the original easement grant. We will accept these letters if all the owners affected by the easement sign the public utility letter agreeing to the conditions specified in the public utility letter. All signatures must be notarized. We will not accept the letter if signed by subdivider only.

    Caltrans clearance is not required unless specified in the conditions of approval. A public entity letter is needed if the title company picks them up as an interest holder under Section 66436 (a) 3A (I-VII) of the California Government Code (Subdivision Map Act). It is the surveyor's/engineer's responsibility to provide a print or sketch of the final map to Caltrans.

59. On maps in the unincorporated territory with tentative approval on or after March 3, 1978, the use of the dedication note 6, beginning on Page 29-59, depends upon the existence of structures within the area being offered for street purposes. (See Section 21.28.040 of Title 21 of the County Code.) The form letter shown on Page 29-78 must be signed and submitted to this office.

    The "Easements with Structures Letter" (formerly "Section 21.28.040 Letter") is required whenever public streets are being dedicated or Private and/or Future streets are being offered. (See Item VIII beginning on Page 29-9 and sample letter on Page 29-78.)

60. On tentative maps in the unincorporated territory dated May 18, 1979, or later, all existing easements must be accounted for on the tentative map. If all easements have not been correctly accounted for, another tentative maps must be submitted to the Department of Regional Planning for approval by the Advisory Agency or acceptance as an accompaniment to the approved tentative map. Easements of the County are required to be delineated on the final map.

    If a net area is shown on the final map which excludes areas of easements not shown on the final map, then all existing easements must be shown or the net area corrected to exclude only those deductible easements required as indicated in the above paragraph.

    If all easements of record are being delineated on the final map, but some are blanket, indeterminate, or in a street being offered For dedication, a statement about it being blanket, indeterminate, or in a street should be in the omission note or easement note. The easement checking fee must be paid if an easement, other than Those of the local agency, is blanket, indeterminate, or in a street offered on the map and is so stated in omission note or easement note. We will consider this as a "word" delineation. If easements are not delineated on the final map, a statement should not appear In the omission note or easement note.

We will allow abbreviation for County of Los Angeles on dedication notes and labeling of existing easements (Co. of LA, COLA, etc.).

Concentric or parallel easements do not need to be completely dimensioned. Only control dimensions need to be shown (radius, width, etc.).

Existing easements that run through a subdivision and cross lot lines do not need to be tied to each lot line. Ties need only be shown at the two ends or at one end with the bearing of the easement shown. Labeling of existing easements as "easement to" is permitted except for local agency easements which must still be labeled as "easement of."

Dimensions on off-site access is required only adjacent to or on the last course coming into the subdivision boundary. The remainder of off-site access need not be dimensioned or established. A pictorial representation, not necessarily to scale, with reference is all that is needed. However, proof of the access is still needed.

On all maps we should look at the underlying map to see if there was an access restriction or building restriction dedication. Some title companies will not show in their report or guarantee these types of dedications. However, the subdivision map must account for these types of dedications.

Existing easements within off-site easements being dedicated do not have to be shown unless they are not consistent with the easement being dedicated. Signature omission note should be modified to indicate it is within the off-site dedication.

When a street has been abandoned or vacated and two years has not elapsed from the date of vacation, the title company may show an owner of an ingress and egress easement within the vacated street. This is due to the provisions of California Civil Code Section 812. The interest will normally be shown pursuant to Section 66436 (a) 3B of the California Government Code (Subdivision Map Act).

If a street has been vacated pursuant to the provisions of the California Streets and Highway Code, the title company may show easement interests for storm drains, sewers, waterlines, or public utilities, as a result of reservations made in the vacation document. This reservation is normally made for any facilities which may be existing within the vacated right of way. The title company should attempt to determine what facilities exist. We should attempt to have the owner of the facilities record a document establishing the Location of the easement necessary for their facilities.

The area covered by a ground lease must be shown and labeled on the final map. We will also collect an easement checking fee for the checking of delineation of ground leases.

If an existing ground lease does not agree with the lots or parcels shown on the final map, we do not need to show said lease on the final map if we get a letter signed and notarized by all the owners that they agree to have the leases adjusted to agree with the map after it files.

If an easement is appurtenant to a piece of land, it passes with the conveyance of the land as described in "Title Handbook" published by TICOR Insurance Co. (See Chapter 50 of this Manual.)

Ingress and Egress (I & E) easements "to be reserved in documents," are only shown within the property being subdivided.

Building setback dedications are treated like building restriction rights dedicated within the setback area.

If in a City, we will require a letter from the City for easements being abandoned by note (See Item VI.E. on Page 29-9 and Note 15.a. on Page 29-66.)

Southern California Edison easements 100 feet wide or any DWP or MWD easement or high pressure gas line easements should be shown on the final map as a condition of approval on a County map.

The Fire Department obtains agreements for off-site "fire lanes"from the owner giving them access and it can be identified on the map as such. Or a distinctive border can be shown around such "fire lane" (like an off-site easement) and the underlying owner must sign the map acknowledging this "fire lane". (No dedication is done in the owner's certificate).

Existing flood control easements must be shown only if required in the conditions of approval. The subdivision map checker must insure that major easements of Southern California Edison - MWD or any major transmission line easements are required to be shown per the conditions of approval. (The Department of Regional Planning must be told to put the easement requirements in the minutes.) If these easements are shown, all other private easements must be shown to keep from implying that these are the only private easements within the subdivision.

Collect easement checking fee from the applicant. As a courtesy, we will ask for clearance from Drainage and Grading Section when a subdivision is adjacent to a channel, but it really cannot be required unless the conditions of approval require it (the Subdivision Map Act does not require it).

On any easement, we must be able to find that the project does not unreasonably interfere with the exercise of the easement. If surveyor/engineer has difficulty with the easement description, it is recommended that the title company take a calculated risk and eliminate said easement from the title report.

Easements can be dedicated to COLA on a city map as long as the County will accept them. This is to be accepted in the same manner as on a parcel map.

When the local agency owns the property and wants to create easements, the following apply:

a) Streets and easements are shown as being "set aside."
b) Private and Future streets cannot be set aside. They must be shown as "to be reserved for street purposes at time of conveyance" or shown "to be reserved in documents for the use of _____."

When a map is filed over existing Private and Future street, the Future portion is automatically abandoned. If the map rededicates Private and Future streets in and over the general area where the existing Private and Future street was, we can say that the new map is substituting a street for the existing street and the existing Private and Future street need not be shown.

61. A preliminary subdivision guarantee is required to be submitted by the time the map is checked for the second time. The name of the title company and the order no. must be provided if the preliminary guarantee is not available at the time the final map is submitted for the first check.

62. The signatures requirements are the same as presented in No. 56 on Page 29-28.

    A revised preliminary subdivision guarantee is normally required whenever the title sheet does not reflect what is reported on the preliminary subdivision guarantee.

63. Where a partner of a partnership is signing, the word "by" before the name is not required. The word "partner" or "general partner" after the name will always be required.

    In an acknowledgment:

    a. The abbreviation "nd", "st", "th" or "rd" is not required after the date.

    b. The name of the notary is not required, nor is "the undersigned".

    c. The name of the individual being acknowledged must agree exactly with the signature.

    d. Corporate officer's titles can be abbreviated.

    e. The name of the corporation, partnership, joint venture, etc. does not need to be shown. However, if it is shown it must agree exactly with the name shown under the owner's certificate.

    f. The phrase "as trustee" or "as beneficiary" can be used even if two or more individuals are signing for a deed of trust. However, the vesting on the map should be consistent with the acknowledgment.

    g. The address of the notary public can be shown if it is a part the notary's stamp.

    We do not need signature authorization, partnership agreements, etc., on any parcel map where the subdivider only is signing. On tract maps and parcel maps (other than the subdivider only signing) signature authorizations will be required i.e., partnerships, joint ventures, attorney-in-fact, corporations, if other than some type of president in conjunction with some kind of secretary signature. The president and secretary cannot be the same individual. If it is a sole corporation then only one officer is needed to sign. If a title company shows who must sign for a partnership, etc., we will check and enforce.

A corporate seal is needed for a corporation appearing on a map. If a corporate seal is shown and does not agree exactly with the vesting shown on a map, an authorization is needed.

Acknowledgment for a joint venture can have venturers acknowledged as individuals or not as individuals. Either form (Certificate Booklet or sample acknowledgments) is okay.

If the title report shows A AKA B, the individual can sign either A or B. If the person signs A, acknowledgment must be A AKA B. If we can determine how title was acquired, the person can sign the exact same way without AKA.

If a public agency owns 90% of a piece of land and under a condemnation action, has the right of immediate possession, the agency must sign twice, once as owner and again as interest holder under court order _____ etc. Title report should reflect such (See section 66465 of the California Government Code).

After January 1, 1987 a notary acknowledgement need not have the official seal of the notary as long as the name, county of principal place of business and the expiration date of the notary are typed or printed below the notary's signature in the acknowledgment.

64. For geologic restricted use area see Dedication Nos. 12 and 13, on Pages 29-60 and 29-61 and Sample Note Nos. 23 and 24 beginning on Page 29-67.

65. For standard flood hazards notes see:

    a. Dedication No. 13 on Page 29-61.
    b. When the entire lot/parcel is subject to flood hazard, use Dedication No. 14 on Page 29-61.
    c. Sample Note Nos. 5 and 6 on Page 29-64.

66. For natural drainage courses see:

    a. Dedication Nos. 13 and 14 on Page 29-61.
    b. Sample Note No. 5 on Page 29-64.

67. For alternate cross sections see Sample Note No. 4 on Page 29-64.

    An alternate cross section can be used subject to the advisory agency's approval and if all the following apply (see Chapter 44):

    a. Sidewalk is being built adjacent to curb.
    b. Standard parkway is being used.
    c. Owner owns in fee underlying alternate section area.

    If there is a question about the underlying fee title, we will require a letter from the title company. Only that portion of the 6 feet within the ownership can be used if the fee owner(s) is not the same as for the subdivision. If so, we need to modify the alternate section note.

68. For sample condominium note.

    In the unincorporated territory, on maps approved after May 1, 1979, a note indicating the number of units on a condominium or the number of buildings in a lease project must appear on the final map. Refer to the following:

    a. Sample Note Nos. 16 and 18 on Pages 29-66 and 29-67, respectively.
    b. Item VII beginning on Page 29-9.

69. See Sample Notes Nos. 20 and 25 through 27 on Pages 29-67, 29-68, and 29-69 for sample residential planned development notes.

    On Residential Planned Development (RPD) type maps, if there are no open space lots, the standard RPD notes should not be used. If there are open space lots, a determination must be made as to how maintenance of these lots will be handled and if the standard RPD notes would be appropriate.

    On Commercial Planned Development (CPD) and Manufacturing Planned Development (MPD) type projects, a note like the RPD type note is not required.

    Cluster type maps - Technically cluster type maps are not considered to be RPD maps. However, they are similar to RPD maps in that they have lots in a cluster and may have

common areas. If a map is first filed to separate the cluster lots from the common lots, show the following note:

"The owners and subsequent owners of lots (cluster lots) will hold an undivided interest within lots (common lots)."

The second map filing should show the following note on the title sheet:

"Lots (common lots) of Tract No. _____ are common areas and will be held in fee by an association made up of the owners of lots (cluster lots) of this tract. Membership in the Homeowner's Association is inseparable from ownership in the individual lots."

Cluster developments need not have any common lots. As long as the aggregate of lots averages out to the required area.

For example: A subdivision in a "R1-20,000" zone would allow 3 lots with 10,000 square feet in area and 3 lots with 30,000 square feet in area. Thus the average lot area would be 20,000 square feet as required by the provisions of Title 22 of the County Code.

The maintenance of common areas and open space areas or portions thereof may be handled by a Landscape Maintenance District. The fee ownership of the common area and open space area may be granted to the Landscape Maintenance District or retained by a Homeowner's Association.

Fee title transfers of open space areas and/or common areas can occur only if all of the participants in the total maintenance district have equal rights within said open space and common areas.

70. Always check the City book in the Subdivision Section for the City's required certificates.

71. On Tract Maps Within County Unincorporated Territory Only.

The park dedication fee is computed by the Department of Parks and Recreation pursuant to Section 21.28.140 of Title 21 of the County Code.

The Department of Parks and Recreation will send us a report showing the fee required. This fee is paid to the Parks Department and they in turn will clear the map for filing.

On Parcel Maps Only

The subdivider's certificate is required on a parcel map with no dedications or offers of dedication if the map is in a city that has not waived signatures. This rule applies only to parcel maps containing four or fewer parcels.

Signatures of owners shall always be required for parcel maps containing more than four parcels in cities requiring signatures even if dedications are not required. (Check the city book in Subdivision Section for exceptions or deviations to this rule.)

The subdivider's certificate is not required on parcel maps in the unincorporated county and in cities that have waived signatures regardless of the number of parcels provided there are no dedications or offers of dedication.

72. See Sample Note Nos. 15 and 16, on Page 29-66.

The Subdivision Map Checker must make certain that the easement being abandoned is authorized by the appropriate section in the Department.

If a street is being abandoned by the map, for maps in the unincorporated territory and in cities where the Director of Public Works is City Engineer, a notarized letter signed by all the owners must be submitted agreeing to grant utility easements for any existing facilities within the abandoned street if requested by the utility company or public entity.

For abandonment of Flood Control District easements allowed under Section 21.16.080 of Title 21, use the certificate in Sample Note No. 15.b. on Page 29-66.

This certificate is signed by the Deputy Director.

73. On maps where we are verifying conditions of approval.

If a condition of approval requires a design to the satisfaction of a particular agency (i.e., lot design, street design, etc.) which would affect the final map, it is the checker's responsibility to verify that the design on the final map is satisfactory with the agency involved.

A drainage clearance is necessary if a Flood Control District right of way or easement is adjacent to or within the subdivision. A clearance is also needed if required by the conditions of tentative approval. It is the checker's responsibility to make drainage as a required clearance if not already so indicated on the Kardex card. He/she must also insure that a print of the final map is sent to Drainage and Grading Section.

On maps within County unincorporated areas where the conditions of approval requires "paving," it is the responsibility of the checker to show the word "paving" on the Kardex card in the vicinity of the listing of that Department requiring said paving (such as the Department of Regional Planning or the Forester and Fire Warden Department). If we get a clearance from the Department requiring "paving" and we have not received a "paving bond," verify that the paving has been done and inspected by that department requiring the paving.

The County Counsel requires that partnership statements and joint venture agreements be recorded to provide a public record and constructive notice when used with bonds and agreements.

74. For cities in which the Director of Public Works serves as the City Engineer.

Usually, an oral clearance will suffice.

75. Tax clearance requirements for a tract and parcel map (see Chapter 13 of this Manual).

A tax clearance is obtained from the County Treasurer-Tax Collector's office after verification is made that property taxes for the property being subdivided have been paid. Property taxes become due every November 1, therefore, a new tax clearance is required for all maps on or after this date even though a tax clearance was previously issued.

If a map is filed prior to November 1, a bond for the new taxes that would have become due on November 1 would be required.

On condominium conversions where there is less than 30 days before new tax clearance is required, do not send out mailing to tenants, unless (1) a cash deposit (in the amount of tax bond) with a letter agreeing to let money be used to pay for taxes is received (cash is paid here), or (2) a security deposit and a letter from the financial institution agreeing to pay the taxes on or before (end of the 30-day period).

As long as local agency approved the map when there was a valid tax clearance, the map can be filed for recordation.

All tract and parcel maps (including Community Redevelopment Agency (CRA) projects) must have tax clearance.

76. Tax bond requirements for all tract and parcel maps commencing March 1 through October 31.

A tax bond is required for taxes that will become due on November 1 of the same year. (See Chapter 12 of this Manual.)

If a map does not file prior to November 1, a new tax clearance is required. The tax bond that was previously submitted is returned to the depositor.

If a map is to be filed over the same area or smaller (within) area of another map which put up a tax bond and it is within the same tax bonding period, then the second map need not put up another tax bond or pay a tax bond fee. (Use special wording on stamp.) A tax clearance and fee will still be required.

If a letter of credit issued for a tax bond has an expiration date, the expiration date must be after June 30th of the tax year.

A supplemental tax bond is normally required whenever there is a change of ownership or new construction started. A tax declaration letter and a "Property Reassessment Affidavit" must be submitted to this office in accordance with the procedures shown in Chapter 12 of this Manual. (The tax declaration letter may be submitted to the Bond Desk of the Welfare and Exemptions Section of the County Assessor.)

A supplemental tax bond is "good" until a supplemental tax bill is issued. Once the bill is sent out, the owner has one month to pay for the first installment and four months after that to pay the second installment. If the bill is not paid, the supplemental tax bond is used to pay the bill. Therefore, if a letter of credit is used for security, the letter of credit must have an automatic extension provision or be good for five years.

The County Counsel requires that partnership statements and joint venture agreements be recorded to provide a public record and constructive notice when used with bonds and agreements.

77. For County and City Subdivision Maps in Cities where the Director of Public Works serves as City Engineer Only.

If the Subdivision Section is responsible for determining the security amount for certain types of improvements, indicate on the index card in a blank space the type of improvement bond that is required. For instance, if the conditions require "paving", it is the map checker's responsibility to show the word "paving" on the Kardex Card in the vicinity of the department requiring said paving (see No. 73 beginning on Page 29-35).

The County Counsel requires that partnership statements and joint venture agreements be recorded to provide a public record and constructive notice when used with bonds and agreements.

78. The minimum number of prints required to be submitted are two - one file and one check.

If the boundary establishment on a field surveyed map is incorrect or if the map does not show proper monumentation, a second print for monument inspection will be required.

If a department, section, or unit has not cleared the final map and a clearance depends on what is shown on the map, prints for each affected department, section, or unit will be required.

If the map is in a city and the city engineer has not given a clearance, a print for the city will be required.

Check the City Book in Subdivision Section for special cases.

79. The subdivision map checker's responsibility regarding condominium conversions in the unincorporated County territory are as follows:

    a. To compare the number of units being notified with the number of existing units shown on the tentative map or owner's statement. If the number of units being notified by the owner(s) is less than the number of existing units, a notarized affidavit signed by all of the owners must be submitted listing all vacant units.

    b. To obtain a mailing label for each unrelated tenant from the owner(s). (Assume that tenants with different last names are unrelated.)

    c. To verify that:

        1/ All clearances have been received.

        2/ All fees paid.

        3/ The tax bond for the correct amount has been received and/or all taxes have been cleared.

    Once the above conditions have been met, the subdivision map checker submits the subdivision map to the person responsible for condominium conversion processing. This person is responsible for the following:

    a. Notifying all tenants of the intent of the Department of Public Works to recommend final approval of the Condominium Conversion to the Board of Supervisors, at least thirty days prior to making the anticipated recommendation. This notice must be sent by first class mail with the mailing costs borne by the Department (see sample notice on Page 29-79).

        The thirty day notice may be waived if the owner obtains waivers from all tenants. A sample is on Page 29-80.

    c. Acting on all complaints received from the tenants during this thirty day period in which the condominium conversion specialist will have to determine if the complaint is legitimate and take either of the following two actions:

        1/ If the complaint is not legitimate, a response in writing must be sent stating that the complaint is not under the C&A and that the Department has no power to help the tenant.

        2/ If the complaint is legitimate, the specialist must determine the following:

            a/ The tenant has received the 180 days notice in accordance with the above procedures. If not, the owner is informed that a 180-day notice must be sent and the 180-day time period will begin when the tenant receives the notice.

b/ The tenant has received the C&A in accordance with the above procedure. If not, the owner is informed that the tenant must receive the C&A before the Department can act on the complaint (see sample letter on Page 29-81).

If the above is satisfactory, a hearing must be scheduled within five working days of receipt of the complaint and all parties must be notified of the time and place of the hearing.

d. Seeing that records of any hearing are kept on a tape or a transcript in case the matter is appealed to the courts. Within 30 days, the hearing officer must render his decision and notify the specialist. As previously noted, the hearing officer's expenses are borne by the owner and must be collected before the Department can recommend final approval of the condominium conversion.

The condominium conversion specialist cannot recommend final approval to the Board of Supervisors until the hearing officer notifies the specialist that there is complete compliance with the C&A in accordance with the requirements of Chapter 8.48 of Title 8 of the County Code.

Regarding condominium conversions where there is less than 30 days before new tax clearance is required, notices are not sent by the Subdivision Section to the tenants, unless (1) a cash deposit (in the amount of tax bond) with a letter agreeing to let money be used to pay for taxes is received (cash is paid here), or (2) Security deposit and a letter from financial institution agreeing to pay the taxes on or before the end of the 30-day period.

80. The notarized affidavit noted in this item is required for all new residential condominiums in the unincorporated territory of the County.

81. For Tract Maps Only

See Section 21.28.130, of Title 21, for private park requirements.

For Parcel Maps Within Cities Only

A special assessment clearance letter from the City is required for maps in Cities in which the Director of Public Works is City Engineer and if the subdivider chooses not to show a special assessment certificate on the final map. The certificate should be shown on all final maps since there may be a delay in obtaining the letter from the city.

82. Occasionally separate instruments for each dedication must be prepared for execution by owner and interest holders where interests can become fee title.

83. The executed documents must be returned to the Subdivision Section for checking, acceptance and filing with the County Recorder.

84. When easement or other dedications are tentatively required, the final locations are subject to the review and approval of the particular Department or Division imposing the requirement.

Dedications by separate instruments are very rare if a final map is required. Usually, the separate instrument dedication will be prepared by the "waiver" group within the Subdivision Section.

85. A print of the final map is required to be submitted to the title company whenever revisions with regard to signatures and signature omissions are made on the title sheet or if there are any changes made to the boundary of the map.

86. Some title companies will require corrections on the final subdivision map as a condition for the issuance of a final guarantee. The checker should review these corrections carefully and if found to be inconsistent with any of our policies or procedures, resolve the matter with the title company as soon as possible.

Project No.: _____

TR/PM : _____ (V)

Lead Sec.: _____

CAT Ex.: _____

Los Angeles County
Department of Regional Planning

ZONING AND SUBDIVISION APPLICATION

As required by Chapters 22.16 22.56 & 21.40 of the Los Angeles County Code

The following information is necessary for the review of ALL applications. Failure to furnish information will delay action. Attach extra sheets if necessary. Please read instructions carefully.

RECORD OWNER(S)	APPLICANT	APPLICANT'S AGENT *(Engineer, Licensed Surveyor, Other and please indicate if engineer is also an agent)*
Name _____	Name _____	Name _____
Address _____	Address _____	Address _____
City _____	City _____	City _____
Zip _____ Phone ( ) _____	Zip _____ Phone ( ) _____	Zip _____ Phone ( ) _____

(Attach separate sheet if necessary, including names, addresses, and signatures of members of partnerships, joint ventures, and directors of corporations.)

CONSENT: I consent to the submission of the application accompanying this request.

Signed _____ Date _____
(All record owners)

CERTIFICATION: I hereby certify under penalty of perjury that the information herein provided is correct to the best of my knowledge.

Signed _____ Date _____
(Applicant or Applicant's Agent)

Location _____
(Street address or distance from nearest cross street)

between _____ and _____
(Street) (Street)

in Zone _____, Zoned District _____
(Land Use, not postal zone)

HNM/FS _____ CSI _____ TBG _____ Assessor _____ CT _____

Planning Area _____ USGS _____

Contract City _____ Supervisorial District _____

General Plan Category _____

Local Plan Category (if applicable) _____ Local Plan _____

Project Size (gross acres) _____ Project Density _____

Previous Cases _____

Present Use of Site _____

Use applied for _____

_____

_____

_____

Domestic Water Source _____ Company/District _____

Method of Sewage Disposal _____ Sanitation District _____

Grading of Lots by Applicant? Yes ___ No ___ Amount _____ (Show necessary grading design on site plan or tent. map.)

LEGAL DESCRIPTION (All ownership comprising the proposed lots/project) If petitioning for zone change, attach legal description of exterior boundaries of area subject to the change.

_____

_____

APPROPRIATE BURDENS OF PROOF MUST ACCOMPANY EACH TYPE OF REQUEST – Check each request applied for and complete appropriate sections.

☐ PLAN AMENDMENT REQUEST

Countywide/local Plan or Area Plan Land Use Map Change:

From	To	Acres	From	To	Acres

Other Countywide (Gen. Dev., Housing & Spec. Mgmt.) Map Change:

From	To	Acres	From	To	Acres

Identify Text Change(s) to Countywide/Local or Area Plan Desired:

_____

_____

Total Project Units Currently Allowed By: (a) CW Plan _____ (b) Local Plan _____

Total Project Units Permitted If: (a) CW Plan Amended _____ (b) Local Plan Amended _____

Total Acres Involved: (a) _____ (b) _____

SERVICES: Existing and Proposed:

Gas & Electric _____ Education _____

Fire _____ Access _____

Sheriff _____

☐ ZONE CHANGE REQUEST

Zone: From _____ Acres _____ To _____ Acres _____

_____ _____ _____ _____

_____ _____ _____ _____

☐ CONDITIONAL USE PERMIT, VARIANCE, NONCONFORMING REVIEW, AND OTHER PERMITS

Permit Type _____ Ord. No. _____

Project Site: _____ (Gross Area) _____ (No. of Lots) Area devoted to: structures _____ open space _____

Residential Project _____ (Gross Area) and _____ (No. of floors) Proposed density _____ (Units/Acres)

Number and types of Units _____

Residential Parking: Type _____ Required _____ Provided _____ Total Required _____

_____ Total Provided _____

_____

Non Residential Project: No. of bldgs. _____ No. of floors _____ Gross floor area _____ Operating hours _____

No. of employees _____ No. of shifts _____ Maxium number of employees per shift _____

Assembly and Dining Uses: _____
(Occupant load for buildings per Building & Safety)

Non Residential Parking: Type _____ Required _____ Provided _____ Total Required: _____

_____ Total Provided: _____

_____

Additional Information: _____

_____

The following must be completed for HOUSING PERMITS:

Units allowed without bonus: _____ Units

Density Bonus Required: _____ % _____ Units

Total Units including bonus: _____ Units

☐ SUBDIVISION REQUEST TOTAL GROSS ACRES _____ TENTATIVE MAP NUMBER _____

LOTS: Existing _____ Proposed _____

STAGE: T ___ RV ___ AM ___ RN ___ RA ___ FN ___ WR ___

MAP: T ___ RR(FD) ___ RR(LD) ___ RV ___ AO ___ LL ___

VESTING: (Y) _____ (N) _____

LOT TYPE;OWN'SHIP (Circle);NO. LOTS;NO. UNITS;AC

LOT TYPE	OWN'SHIP (Circle)	NO. LOTS	NO. UNITS	ACRES
SF MH	I NC CC L			
DUP	I NC CC L			
MF	I NC CC L			
OS	I NC CC L			
R PF	I NC CC L			
C	I NC CC L			
I	I NC CC L			

STAFF PURPOSES ONLY

Sch. Dist(s) UN _____ HS _____

LS _____ SCM Date _____

Cities: LA__ BH__ LC__ PM__ Other____ Counties: LA__ VT__ SB__ OR__ K__ Other _____

Agencies/Companies: MWP__ DWP__ CWP__ SCE__ SCG__ PT__ GT__ ATS__ SPT__ UPR__ MSHC__ SCRC____

ANG__ PNF__ Other____

CAL TRANS: Y__ N__ Name(s): PCH__ TCR__ DCR__ Other____ Route(s): _____

HIGHWAYS _____

MISC.: _____

_____

PROJECT NO.: _____

CASES:

____ PLAN AMENDMENT	_____ HOUSING PERMIT	_____ OTHER	FILED _____
____ ZONE CHANGE	_____ PARKING PERMIT	_____ PARCEL MAP	FEE _____
		_____ No. Brown Line	
____ CUP	_____ OAK TREE	_____ No. Blue Line	RECEIPT NO. _____
____ VARIANCE		_____ TRACT	
		_____ No. Brown Line	
____ NON CONFORMING REVIEW		_____ No. Blue Line	

TRACT NO. 33456

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

BEING A SUBDIVISION OF A PORTION OF LOT 4, TRACT NO. 3428 AS SHOWN ON MAP FILED IN BOOK 15, PAGE 17, OF MAPS, IN THE OFFICE OF THE RECORDER OF THE COUNTY OF LOS ANGELES.

Leave 2"x3" Blank Space for Recorder's Stamp

We hereby state that we are the owners of or are interested in the lands included within the subdivision shown on this map within the distinctive border lines, and we consent to the preparation and filing of said map and subdivision. We hereby dedicate to the public use all streets, highways, and other public ways shown on said map.
And also dedicate to the County of Los Angeles the easement for sanitary sewer purposes so designated on said map and all uses incident thereto, including the right to make connections therewith from any adjoining properties.
We further state that, except as shown on a copy of this map on file in the Office of the County Road Commissioner, we know of no easement or structure existing within the easements herein offered for dedication to the public, other than publicly owned water lines, sewers, or storm drains, that we will grant no right of interest within the boundaries of said easements offered to the public, except where such right or interest is expressly made subject to the said easement.

Corp Seal B.S.M. Industries, Inc.

_____ President

_____ Secretary

State of California)
County of Los Angeles) S.S.
On this _____ day of _____, 1975 before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Secretary of B.S.M. Industries, Inc., the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

_____ (Signature) Notary Public (NOTARY SEAL)

I hereby state that I am a Registered Civil Engineer of the State of California; that this final map, consisting of two (2) sheets, is a true and complete survey as shown and was made by me or under my direction on March 2, 1975; that the monuments of the character and locations shown hereon are in place or will be in place within twenty-four (24) months from the filing date of this map; that said monuments are sufficient to enable the survey to be retraced and that tie notes to all centerline monuments shown as "to be set" will be on file in the Office of the Director of Public Works within twenty-four (24) months from the filing date shown hereon and that the tie notes to centerline monuments shown as "set" are on file in Public Works Field Book No. 4075, Page 93.

_____ (Signed)
R.C.E. No.

All 2° I.P.'s are set flush

The bearing N89°59'00"E of the centerline of Evelyn Street as shown on Tract No. 29576, M.B. 534-42 was used as the basis of bearings on this map.

Leave 4"x5" Blank Space for the Board of Supervisors Acceptance Certificate

Leave 2"x3½" Blank Space for Clerk of the Board Certificate

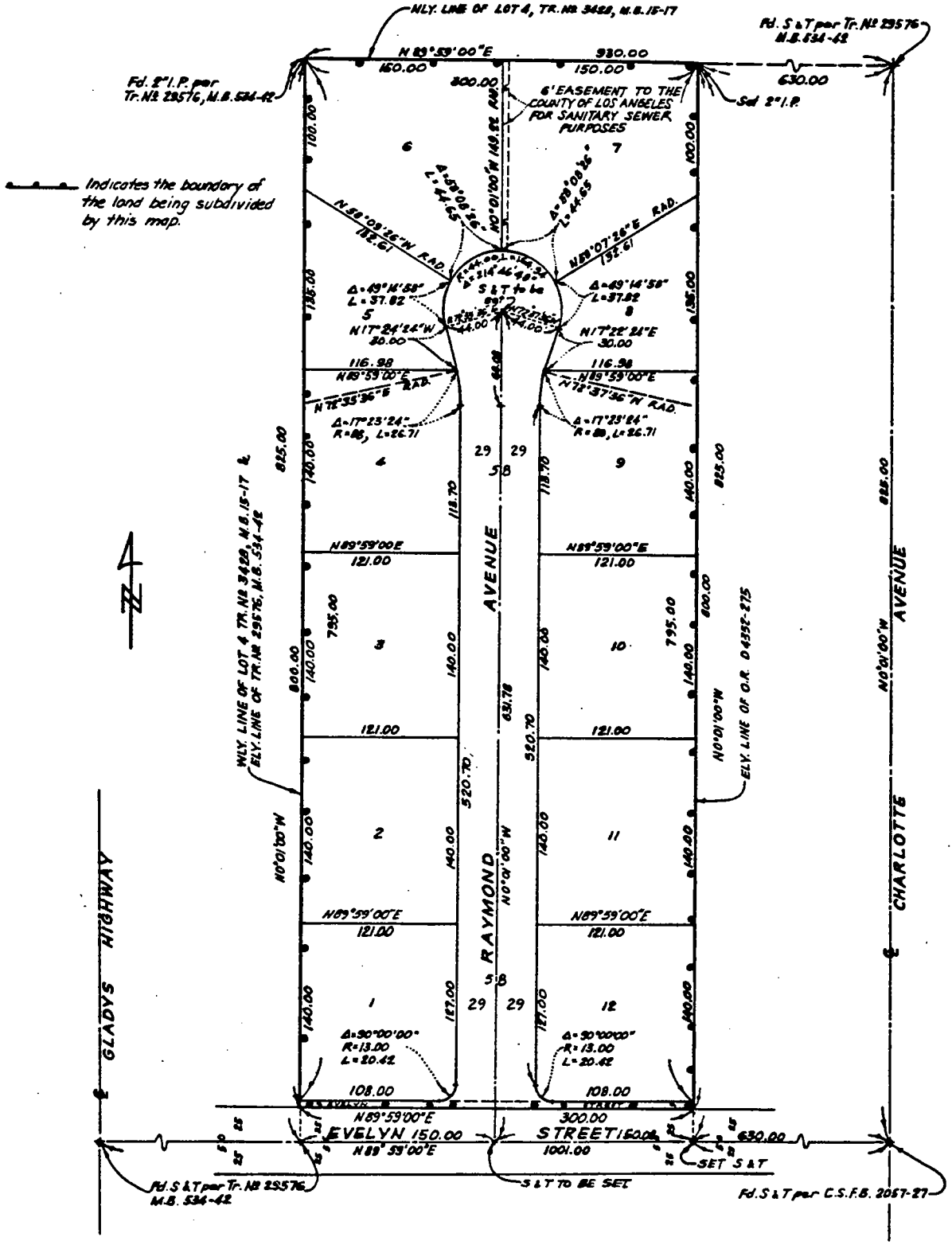
Leave 2"x4" Blank Space for County Engineer Certificate

SCALE: 1"=60'

SHEET 2 OF 2 SHEETS

TRACT NO. 33456

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA



AREAS WHICH APPEAR ON THE FINAL MAP

A. Gross Area - computed to the boundary of each lot and/or sidelines of dedicated streets.

B. Net Area

1. Net lot areas are primarily for the benefit of the Assessor Map Section. To conform more closely with the procedures followed by the Assessor Map Section, the following types of areas will be subtracted from the gross area of a lot to obtain the net lot area that is shown on maps processed by this office:

   a. Private Streets.
   b. Future Streets.
   c. Private and Future Streets.
   d. Flood Hazard Areas.
   e. Geological Restricted Use Areas.
   f. Slope Easements.
   g. Public Riding, Hiking, and Equestrian (bridle) Trail Easements.
   h. Public Sidewalk Easements (if delineated on map).
   i. Public Pedestrian Walkway Easements (if delineated on map).
   j. Ingress and Egress Easements (if meandering through a lot or serving more than one lot or parcel of land).
   k. Ingress and Egress Easements to be reserved in documents for the use of three or more lots or parcels.
   l. Fire Lanes.
   m. Flood Control District Easements.
   n. Private Driveways (labeled as private driveways on the final map and serving three or more lots, parcels or units).
   o. Any storm drain, or flood control easement that meanders through a lot.
   p. Private Driveways (if labeled like a private street with a name on the map).
   q. City of Los Angeles Water & Power Department Transmission Line Easements.
   r. Overhead Highway Easements.
   s. Overhead power line easements 100' or more in width.
   t. Flood Control, drainage, or storm drain easements that are adjacent to a property line and 20' or more in width.
   u. Fire Road Easements (if meandering across lot).
   v. Drainage easements that are not adjacent to the property line regardless of width.
   w. Roadway Easements for public use.

NOTE: Do not show zero net area for open space/common lots even if construction rights are dedicated over said lots. Just deduct applicable items a-w shown above.

SCALE: 1" = 60'

SHEET 1 OF 1 SHEET

PARCEL MAP NO. 1

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

BEING A SUBDIVISION OF A PORTION OF LOT 7, TRACT NO. 12736 AS FILED IN BOOK 750, PAGE 8, OF MAPS, RECORDS OF SAID COUNTY.

Leave 2"x 3" Blank Space for Recorders Stamp

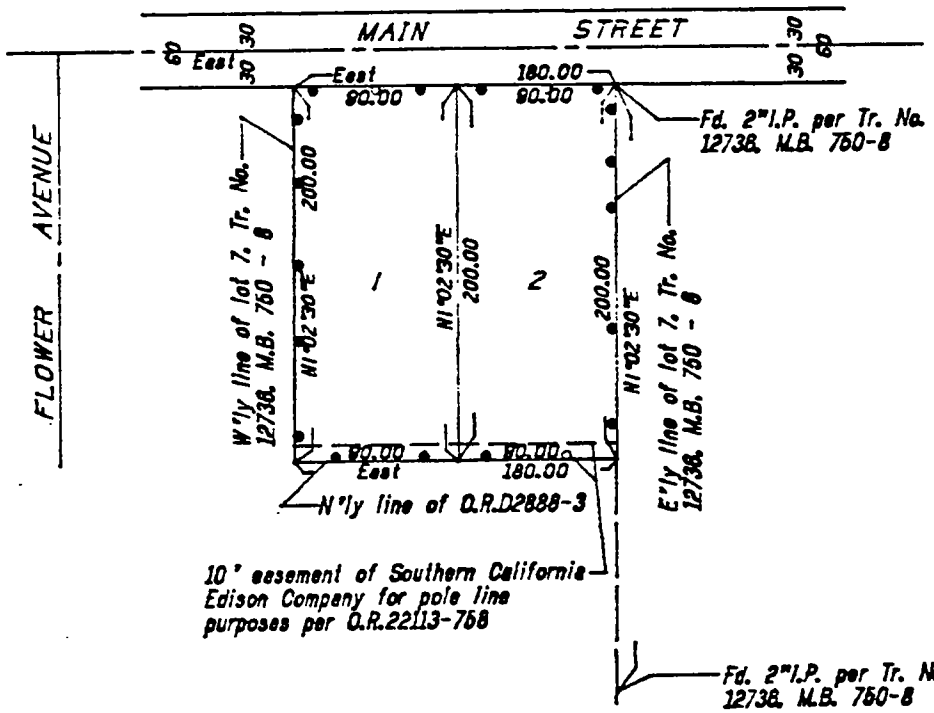
This map was prepared by me or under my direction and was compiled from record data in conformance with the requirements of the Subdivision Map Act and local ordinance at the request of John Doe on March 1, 1978. I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any.

Signed
L.S. or R.C.E. No.

Note: Record data from Tr. No. 12738, M.B. 750 -8

Record owner is John Doe

Indicates the boundery of the land being subdivided by this map.



Compiled with no dedications required.

-2- 45

SCALE: 1" = 60'

SHEET 1 OF 1 SHEET

PARCEL MAP NO. 2

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

BEING A SUBDIVISION OF LOT 2 OF TRACT NO. 18000 AS FILED IN BOOK 750, PAGE 5, OF MAPS, RECORDS OF SAID COUNTY.

Leave 2" x 3" Blank Space for Recorders Stamp

This map was prepared by me or under my direction and was compiled from record data in conformance with the requirements of the Subdivision Map Act and local code at the request of John Doe on January 1, 1979. I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any.

(Signed)
L.S. or R.C.E. No.

Record data from Tract No. 18000, M.B. 750-5

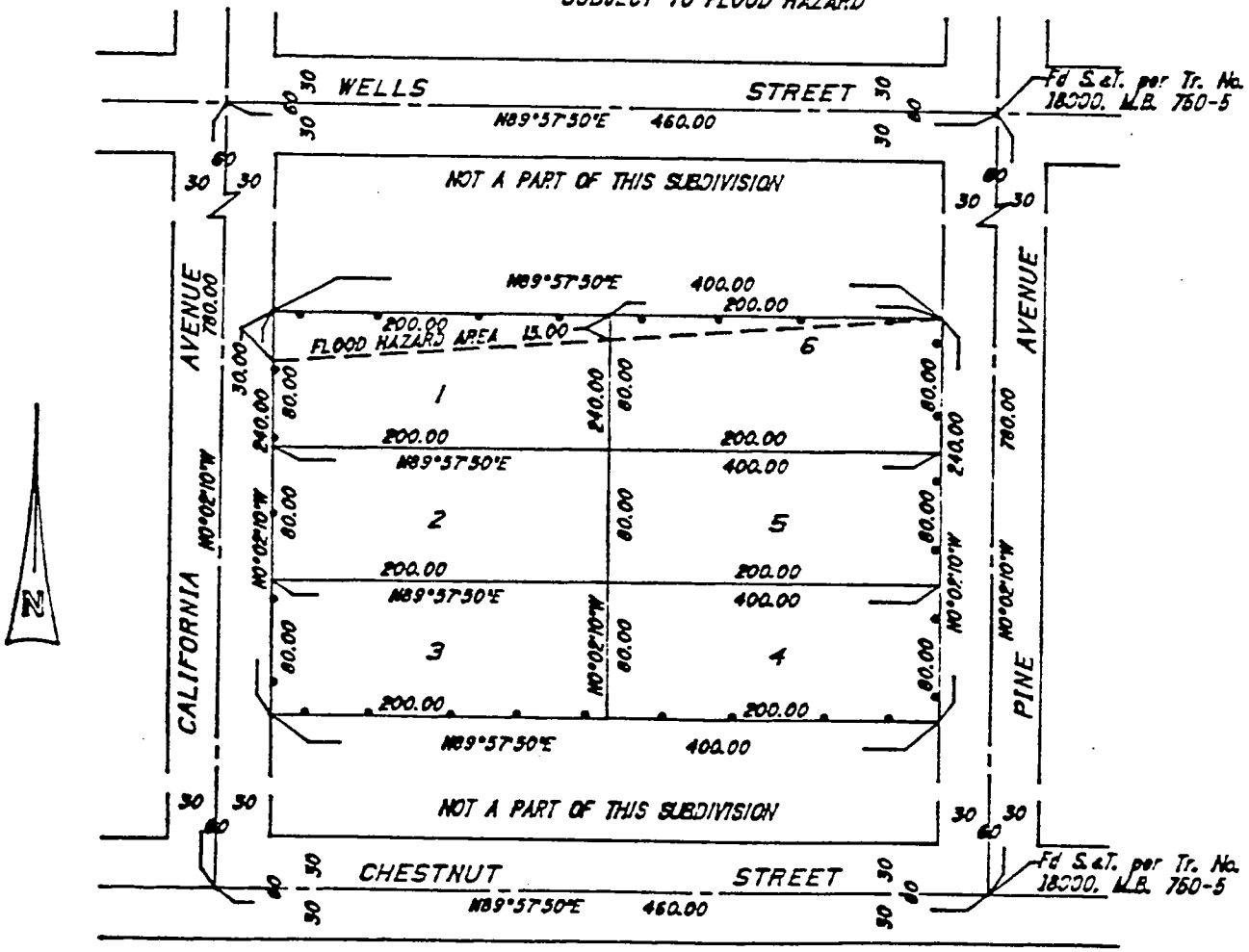
I hereby state that I am the owner of or am interested in the lands included within the subdivision shown on this map within the distinctive border lines and I consent to the preparation and filing of said map and subdivision.

I hereby dedicate to the County of Los Angeles the right to restrict the erection of buildings or other structures within those areas designated on the map as flood hazard areas.

(Signed)
John Doe

Indicates the boundary of the land being subdivided by this map

PORTIONS OF PARCELS 1 & 6 ARE SUBJECT TO FLOOD HAZARD



Leave 4" x 2" blank space for County Engineer Certificate	Leave 4" x 2½" blank space for County Acceptance Certificate

State of California)
County of Los Angeles) S.S.

On this _____ day of _____ 19___, before me _____ _____ a Notary Public in and for said State, personally appeared John Doe personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

(Signature) (NOTARY SEAL)
Notary Public

SCALE: 1" = 300'

SHEET 1 OF 1 SHEET

PARCEL MAP NO. 3

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

BEING A SUBDIVISION OF A PORTION OF THE NW¼ OF SECTION 10, TOWNSHIP 1 NORTH, RANGE 12 WEST, S.B.M.

Leave 2" x 3" Blank Space for Recorders Stamp

This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act and local ordinance at the request of John Doe on January 1, 1978. I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any.

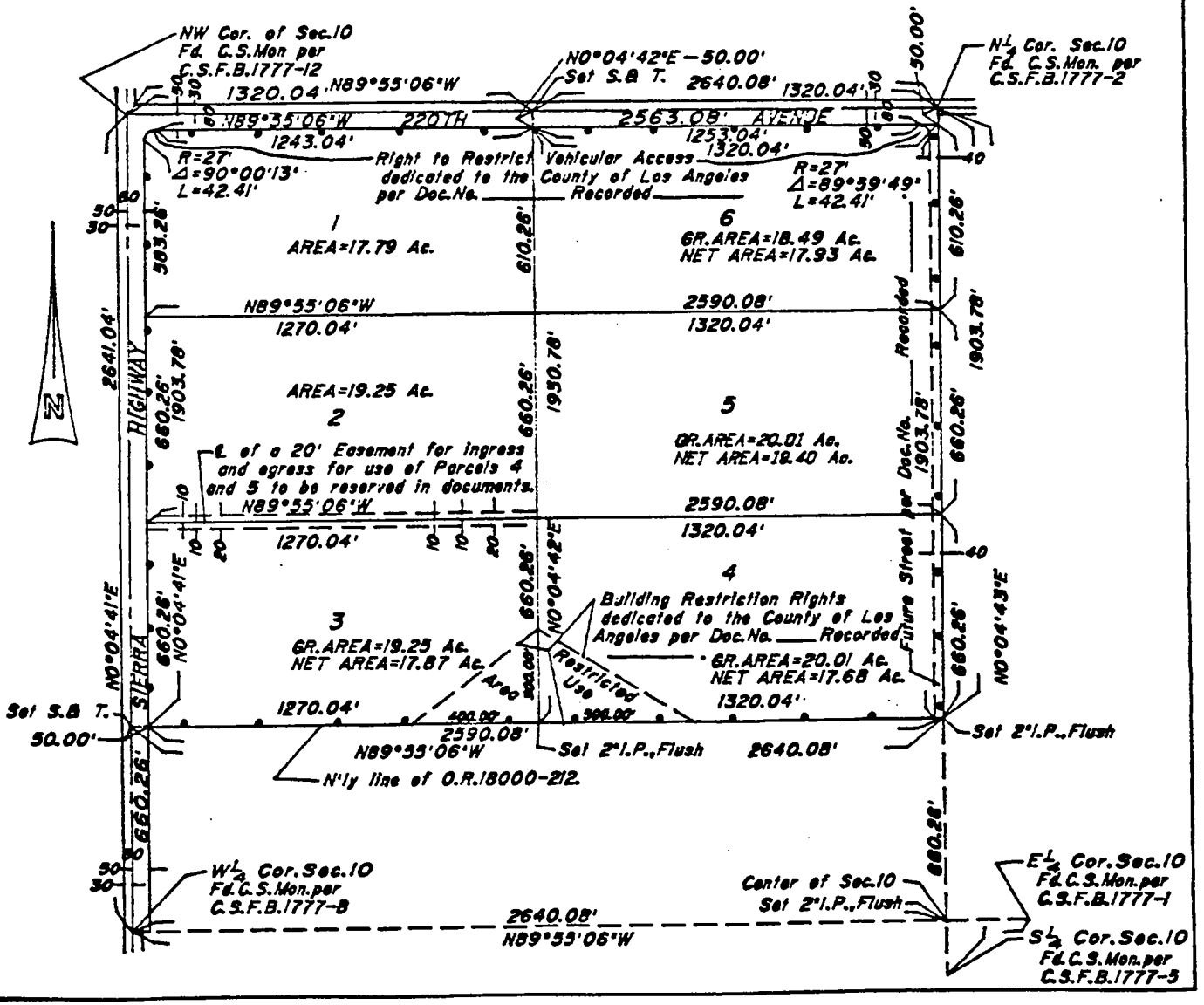
Signed

L.S. or R.C.E. No.

The basis of bearings used for this map is the ℄ of 220th Avenue shown as N89°55'06"W on C.S. B-772-3.

Record owner is John Doe and Son, a partnership.

———— Indicates the boundary of the land being subdivided by this map.



Field survey with dedications by separate instrument.

SCALE: 1" = 200'

SHEET 1 OF 1 SHEET

PARCEL MAP NO. 4

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

BEING A SUBDIVISION OF PORTIONS OF LOTS 1 AND 2 OF TRACT NO. 21720, FILED IN BOOK 750, PAGES 1 AND 2 OF MAPS, RECORDS OF SAID COUNTY

Leave 2" x 3" Blank Space for Recorders Stamp

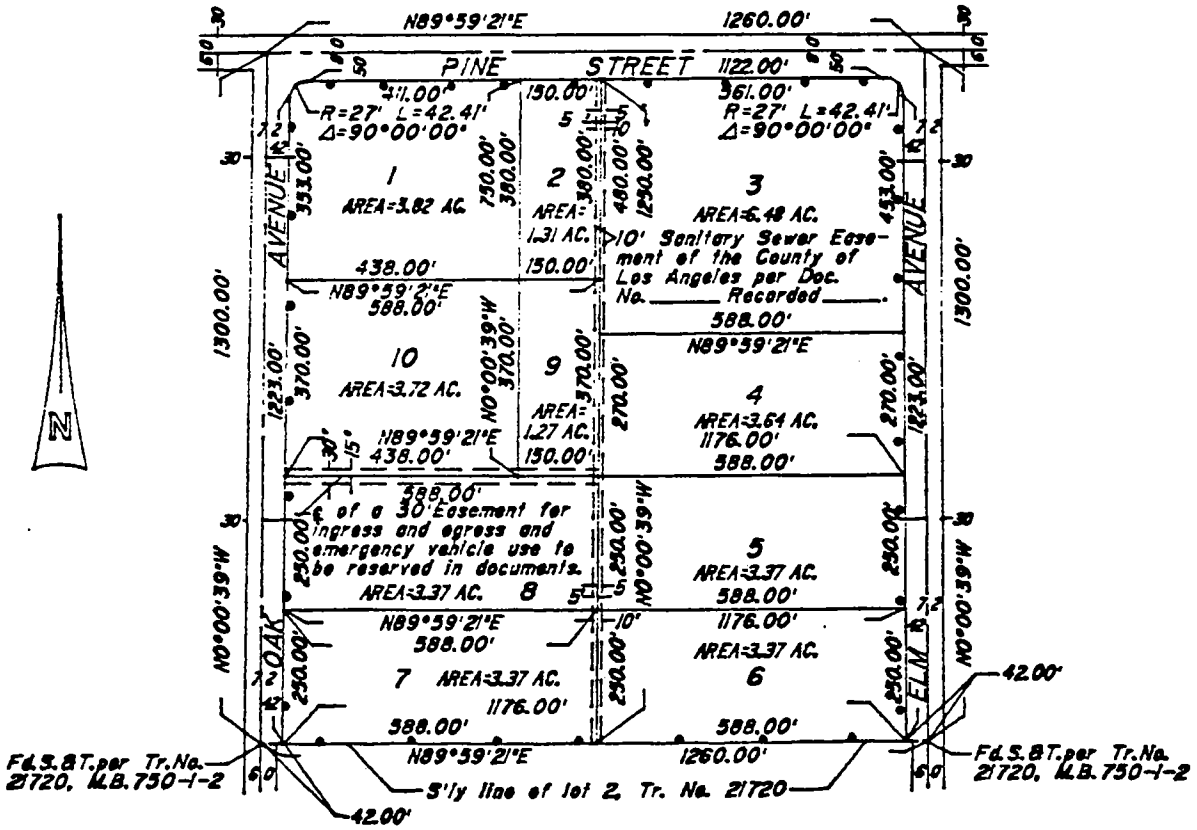
This map was prepared by me or under my direction and was compiled from record data in conformance with the requirements of the Subdivision Map Act and local ordinance at the request of John Doe on January 1, 1978. I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any.

(Signed)
L.S. or R.C.E. No.

Record owner is John Doe Company, a corporation

• • • • • Indicates the boundary of the land being subdivided by this map.

Record data from Tract No. 21720, M.B. 750-1-2.



Compiled with dedications by separate instrument.

29.51

PARCEL MAP NO. 5

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

BEING A SUBDIVISION OF A PORTION OF LOT 83 OF TRACT NO. 1743 AS SHOWN ON MAP FILED IN BOOK 30, PAGES 39 THROUGH 45, INCLUSIVE, OF MAPS, RECORDS OF LOS ANGELES COUNTY

Leave 2" x 3" Blank Space for Recorder's Stamp

We hereby state that we are the owners of or are interested in the lands included within the subdivision shown on this map within the distinctive border lines, and we consent to the preparation and filing of said map and subdivision.
We also dedicate to the County of Los Angeles the easement for sanitary sewer purposes so designated on said map and all uses incident therin, including the right to make connections therewith from any adjoining properties.
We hereby dedicate to the public use all streets, highways, and other public ways shown on the map.
We further state that except as shown on a copy of this map on file in the Office of the Director of Public Works, we know of no easements or structure existing within the easements herein offered for dedication to the public, other than publicly owned water lines, sewers or storm drains; that we grant no right or interest within the boundaries of said easements offered to the public except where such right or interest is expressly made subject to the said easements.

Corp Seal

ACA HOMES, INC. a corporation (Owner)

_____ President

_____ Secretary

HOME TITLE COMPANY, a corporation
Beneficiary under deed of trust recorded in Book T2908 Page 1 of Official Records

Corp Seal

_____ President

_____ Assistant Secretary

State of California)
County of Los Angeles) S.S.
On this _____ day of _____, 1975 before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Secretary of ACA HOMES, Inc., the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

(Signature) _____ (NOTARY SEAL)
Notary Public

State of Califorina)
County of Los Angeles) S.S.
On this ___ day of _____, 1979, before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Secretary of Home Title Company, the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

(Signature) _____ (NOTARY SEAL)
Notary Public

This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act and local code at the request of (John Doe) on (Date). I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any.

(Signed)
L.S. or R.C.E. No.

The bearing N89°45'00E of the centerline of Krellman avenue as shown on Tr. No. 1743, M.B. 30-39-45 was used as the basis of bearings on this map.

All 2° I.P. are set flush.

The County of Los Angeles is an easement holder for Sanitary Sewers per O.R.50167-396.

The signature of Standard Oil Company of California owner of mineral rights per deed recorded in Book 38137, Page 472, of Official Records, Records of Los Angeles County, has been omitted under the provisions of Section 66436, Subsection (C)(3) of the Subdivision Map Act.

Leave 4" x 2½" blank space for the Acceptance Certificate.

Leave 4" x 2" blank space for the County Engineer Certificate.

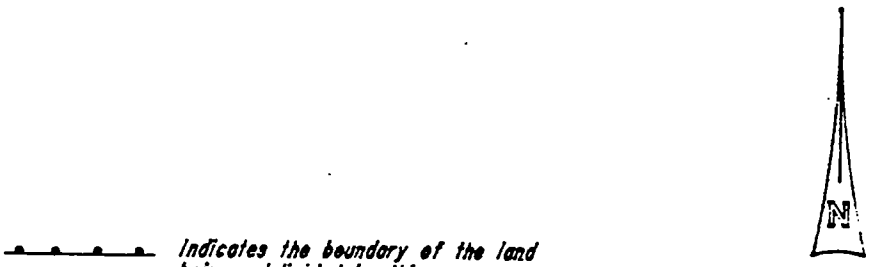
12-E

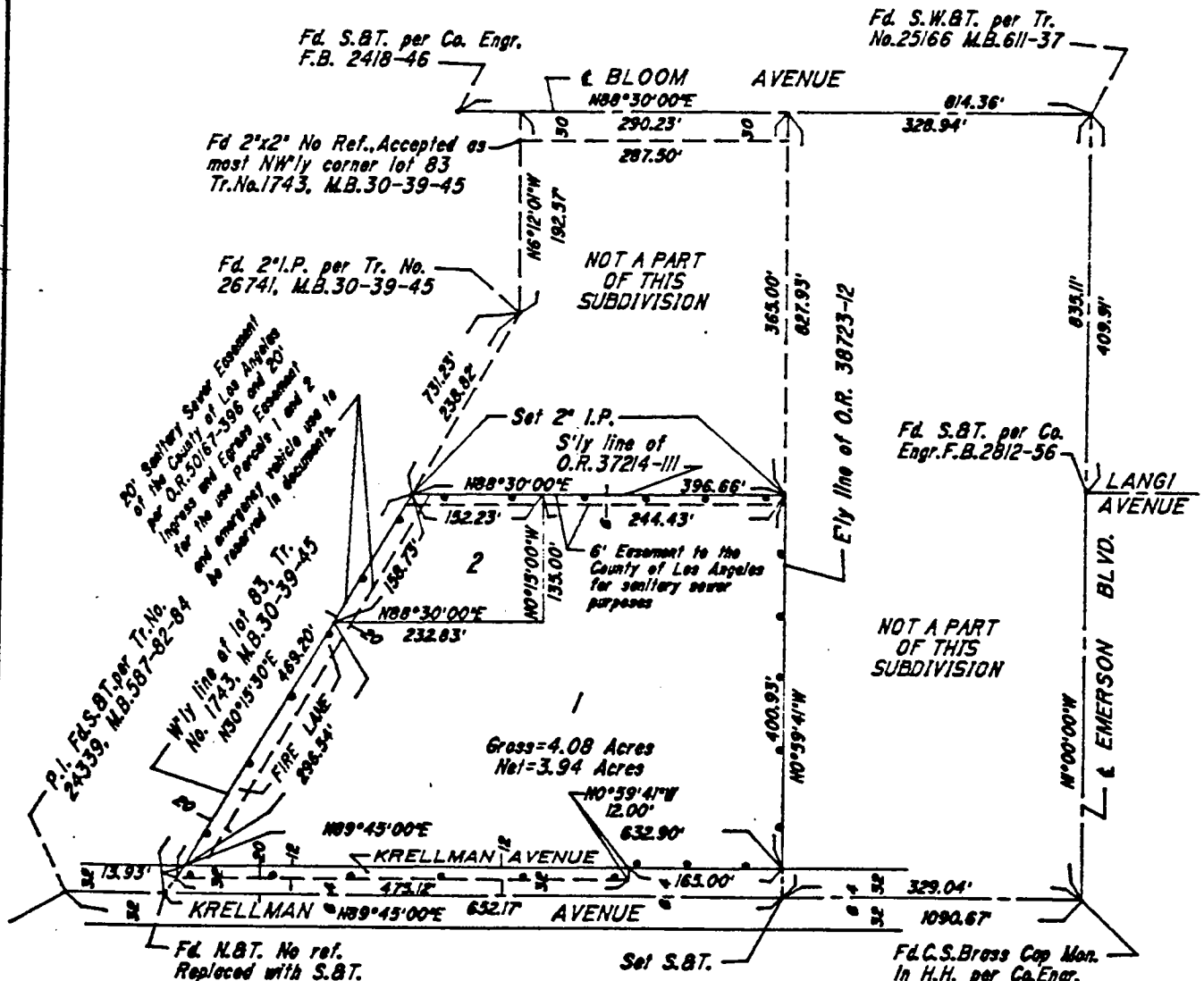
SCALE: 1" = 80'

SHEET 2 OF 2 SHEETS

PARCEL MAP NO. 5

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA





SCALE: 1" = 60'

SHEET 1 OF 1 SHEET

PARCEL MAP NO. 22

IN THE CITY OF _____, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

BEING A SUBDIVISION OF LOT 2 OF TRACT NO. 18000 AS FILED IN BOOK 750, PAGE 5, OF MAPS, RECORDS OF SAID COUNTY.

Leave 2" x 3" Blank Space for Recorders Stamp

This map was prepared by me or under my direction and was compiled from record data in conformance with the requirements of the Subdivision Map Act and local code at the request of John Doe on January 1, 1979. I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any.

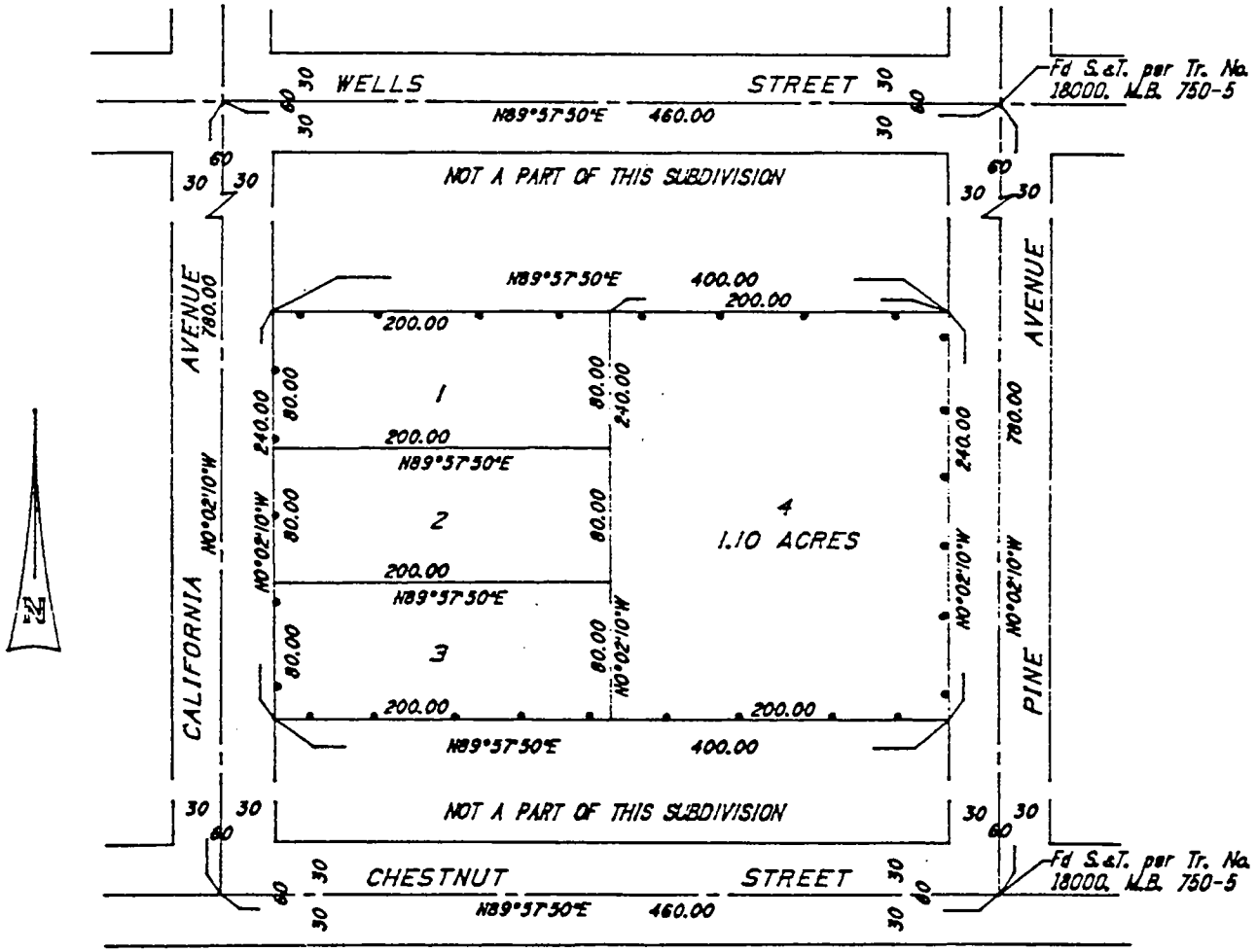
(Signed)
L.S. or R.C.E. No.

Record data from Tract No. 18000, M.B. 750-5

I hereby state that I am the subdivider of the lands included within the subdivision shown on this map within the distinctive border lines and I consent to the preparation and filing of said map and subdivision.

(Signed)
John Doe

Indicates the boundary of the land being subdivided by this map



Leave 4" x 2" blank space for City Engineer Certificate

State of California)
County of Los Angeles) S.S.

On this _____ day of _____ 19___, before me _____ a Notary Public in and for said State, personally appeared John Doe personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

(Signature) (NOTARY SEAL)
Notary Public

PARCEL MAP NO. 55

IN THE CITY _____, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

BEING A SUBDIVISION OF A PORTION OF LOT 83 OF TRACT NO. 1743 AS SHOWN ON MAP FILED IN BOOK 30, PAGES 39 THROUGH 45, INCLUSIVE, OF MAPS, RECORDS OF LOS ANGELES COUNTY

Leave 2" x 3" Blank Space for Recorder's Stamp

I hereby state that I am the subdivider of the lands included within the subdivision shown on this map within the distinctive border lines, and I consent to the preparation and filing of said map and subdivision.

corp Seal ACA HOMES, INC., a corporation (Subdivider)

_____ President

_____ Secretary

This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act and local code of the request of (John Doe) on (Date). I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any.

(Signed)
L.S. or R.C.E. No.

The bearing N89°45'00"E of the centerline of Krellman Avenue as shown on Tr. No. 1743, M.B. 30-39-45 was used as the basis of bearings on this map.

All 2" I.P. are set flush.

The City of _____ is an agreement holder for Sanitary Sewers per O.R.50187-396.

Record owner is John Doe.

State of California)
County of Los Angeles) S.S.

On this _____ day of _____, 1975 before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Secretary of ACA HOMES, Inc., the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

(Signature) (NOTARY SEAL)
Notary Public

Leave 4" x 2" blank space for the City Engineer Certificate

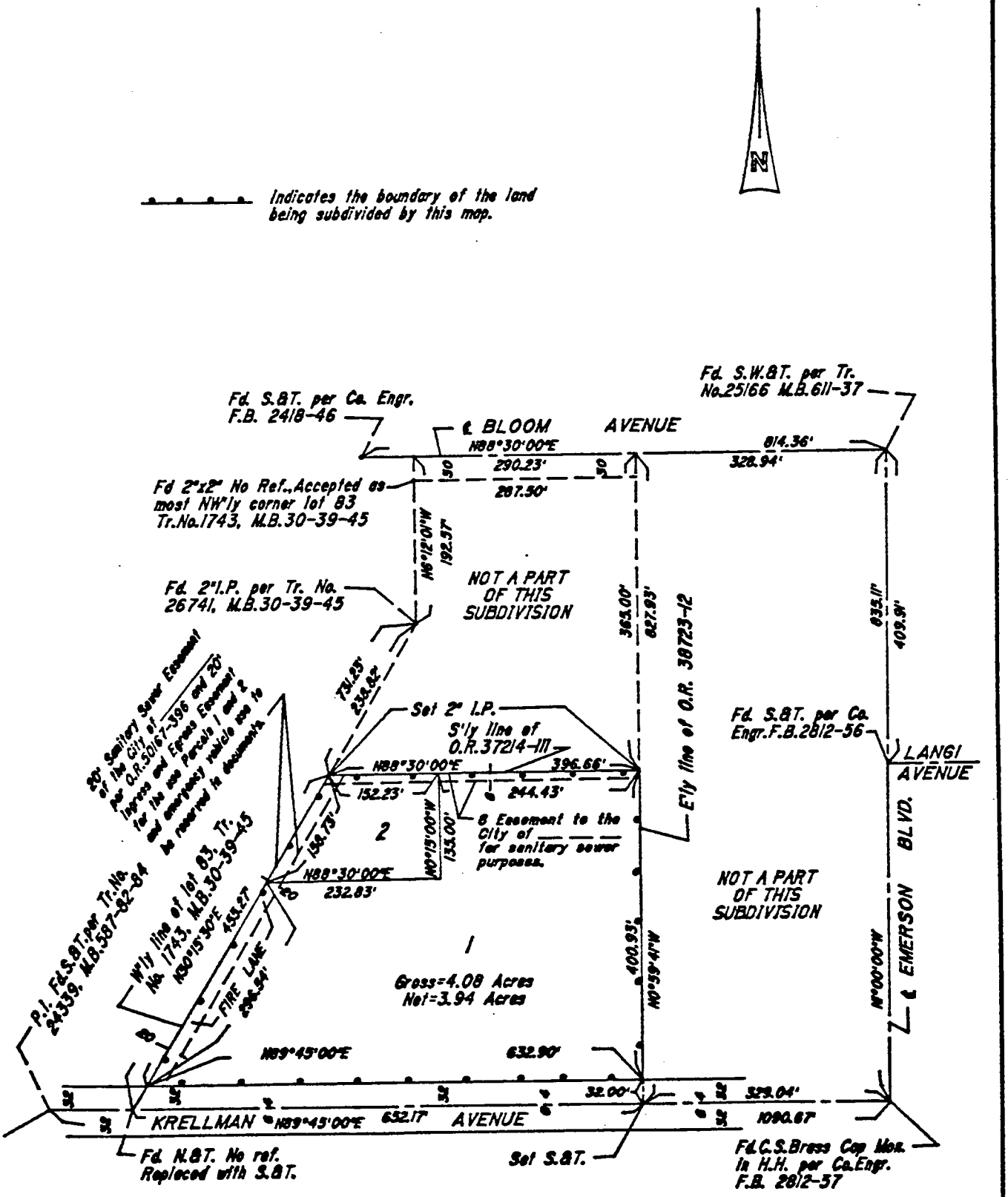
29-55

SCALE: 1" = 80'

SHEET 2 OF 2 SHEETS

PARCEL MAP NO. 55

IN THE CITY OF _____, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA



Engineer's or Surveyor's Certificates

Use one of the following as applicable:

1. Tracts:

"I hereby state that I am a (Registered Civil Engineer) (Licensed Land Surveyor) of the State of California; that this final map, consisting of ____ sheets, is a true and complete survey as shown, and was made by me or under my direction ____(Date)____; that the monuments of the character and locations shown hereon are in place (or will be in place within twenty-four months from the filing date of this map); that said monuments are sufficient to enable the survey to be retraced (and that tie notes to all centerline monuments shown as "to be set" will be on file in the office of the Director of Public Works within twenty-four months from the filing date shown hereon)."

(SEAL or STAMP) (Signed)_____

(R.C.E.) (L.S.) No. _____

2. Parcel Maps:

a. If the map is compiled from record data:

"This map was prepared by me or under my direction and was complied from record data in conformance with the requirements of the Subdivision Map Act and local ordinance at the request of ____(Owner)____ on (Date)_____.
I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any."

(Signed)_____

(SEAL or STAMP)

(R.C.E.) (L.S.) No. _____

b. If the map is based upon a field survey:

"This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act and local ordinance at the request of ____(Owner)____ on _____(Date)_____.

I hereby state that this parcel map substantially conforms to the approved or conditionally approved tentative map, if any; [that the monuments of the character and locations shown hereon are in place (or will be in place within twenty-four months from the filing date of this map); that said monuments are sufficient to enable the survey to be retraced (and that tie notes to all centerline monuments shown as "to be set" will be on file in the office of the Director of Public Works within twenty-four months from the filing date shown hereon)]."

(Signed)_____

(SEAL or STAMP) (R.C.E.) (L.S.) No. _____

Owner's Certificate

Use one of the following as applicable:

1. Regular Form:

   "We hereby state that we are the owners of or are interested in the lands included within the subdivision shown on this map within the distinctive border lines, and we consent to the preparation and filing of said map and subdivision."

   (Signed) _____

2. Parcel Map Form With No Dedications or Offers of Dedication and Four or Fewer Parcels:

   "We hereby state that we are the subdividers of the lands included within the subdivision shown on this map within the distinctive border lines, and we consent to the preparation and filing of said map and subdivision."

   (Signed) _____

3. Condominium Maps With Units of Air Space Shown:

   "We hereby state that we are the owners of, record holders of security interests therein, or are interested in the land included within the subdivision and project shown on this map within the distinctive border lines, and that we consent to the filing of the within condominium plan pursuant to Chapter 1, Title 6, Part 4, Division Second of the Civil Code and to the preparation and filing of said map and subdivision."

   (Signed) _____

Dedications

These sentences are to be added to Owner's Certificate in Item VI.B when applicable. (See Page 29-9. Owner's Certificates are on Page 29-58).

1. Dedication of Streets:

   "We hereby dedicate to the public use all streets, highways, and other public ways shown on said map."

2. Dedication of Easements:

   "And also dedicate to the County of Los Angeles the easement(s) for (sanitary sewer, drainage, storm drain, ingress and egress, etc.) purposes so designated on said map and all uses incident thereto, including the right to make connections therewith from any adjoining properties."

3. Dedication of Future Interest:

   "We hereby offer for public use for (storm drain, etc.) purposes the certain strip(s) of land designated as "Future (Define)_____" on this map reserving to ourselves all ordinary uses of said land except the erection or construction of any structure not ordinarily placed in (storm drain easements, etc.) until such time as said easement is accepted by the governing body."

4. Dedication of Private Streets and Private and Future Streets:

   "We hereby offer to the public use the Private (and Future) Streets shown on said map, reserving to ourselves all ordinary uses of said land except the erection or construction of any structure not ordinarily placed in public streets, until such time as said street is accepted and opened for public use. [We do hereby, and for our heirs, executors, administrators, successors, and assigns, jointly and severally agree that all Private (and Future) Streets shown on this map will accept drainage water discharged from any adjoining street, whether it be a public street, or a Private and Future Street, and further agree that the County of Los Angeles is hereby held free and clear of any claims or damages arising from said drainage]."

5. Dedication of Future Street:

   "We hereby offer for public use for street purposes the certain strip(s) of land designated as "Future Street" on this map reserving to ourselves all ordinary uses of said land except the erection or construction of any structure not ordinarily placed in public streets until such time as said street is opened for public use. [We do hereby, and for our heirs, executors, administrators, successors, and assigns, jointly and severally agree that all Future Streets shown on this map will accept drainage water discharged from any adjoining street, whether it be a public street, or a Private and Future Street, and further agree that the County of Los Angeles is hereby held free and clear of any claims or damages arising from said drainage]."

6. When streets are offered or dedicated and structures exist which require a map to be filed with the Department of Public Works:

   "We further state that, except as shown on a copy of this map on file in the office of the Director of Public Works, we know of no easement or structure existing within the easements herein offered for dedication to the public, other than publicly owned water lines, sewers, or storm drains, that we will grant no right or interest within the boundaries of said easements

offered to the public, except where such right or interest is expressly made subject to the said easements."

7. When streets or easement are offered or dedicated and a map is not filed with the Director of Public Works:

   "We further state that we know of no easement or structure existing within the easements herein offered for dedication to the public, other than publicly owned water lines, sewers, or storm drains, that we will grant no right or interest within the boundaries of said easements offered to the public, except where such right or interest is expressly made subject to the said easements."

8. Dedication of Abandoned Access Rights:

   "As a dedication to public use, while all of (street name) within or adjacent to this subdivision remain(s) (a) public street(s), we hereby abandon all rights of direct (vehicular) ingress and egress from abutting lots to the said street(s). If any portion of said street(s) within or adjacent to this subdivision (is) (are) vacated, such vacation terminates the above dedication as to the part vacated."

9. Dedication of Limited Access Rights:

   "As a dedication to public use, while all of (street name) within or adjacent to this subdivision remain(s) (a) public street(s), we hereby (abandon all rights, except for (Number) driveway opening(s) for lot (Number), of) (grant to the County of Los Angeles the right to restrict) direct (vehicular) ingress and egress to the said street(s). If any portion of said street(s) within or adjacent to this subdivision (is) (are) vacated, such vacation terminates the above dedication as to the part vacated."

10. Dedication of Future Access Rights:

    "We hereby offer as a dedication to public use, when all or any portion of the easements being offered hereon to the County of Los Angeles for public street purposes over those certain strips of land labeled as (Private and) Future Streets within lots _____ to be known as (street name) are accepted, and for such time as the same remain public highways easements, we hereby abandon all rights of direct (vehicular) ingress and egress to these accepted public highways except for the (easterly) (westerly) (northerly) (southerly) _____ feet of Lot _____ so that the owners of said lots abutting these highways, during such time as the same highways are public easements, will have no rights of access whatever in the highways as such except as noted above and except the general easement of travel which belongs to the whole public. If any change of alignment or width of such highways result in the vacation of any part thereof within this subdivision, such vacation terminates the above dedication as to the part vacated."

11. Grant of Physical Sewer:

    "We hereby grant and dedicate to the County of Los Angeles for public use all sanitary sewers and appurtenant structures within (and without) said subdivision and ingress and egress to all Manholes from street right-of-way. Constructed as part of the improvement thereof."

12. Building Restriction in Geological Hazard Areas:

    "We hereby dedicate to the County of Los Angeles the right to restrict the erection of buildings or other structures within those areas designated on the map as restricted use areas."

13. Standard Flood Hazard:

    "We hereby dedicate to the County of Los Angeles the right to restrict the erection of building or other structures within those areas designated on the map as flood hazard area."

    For lots/parcels entirely subject to flood hazard, the following shall be added to the above note:

    "A residential structure and related structures will be allowed on (each lot/parcel) (lots/parcels _____) provided the flood hazard has been eliminated from the structures to the satisfaction of the Director of Public Works."

14. Building Restriction Within Double Area and/or Condominium:

    "We hereby dedicate to the County of Los Angeles the right to prohibit the construction of (more than one) (additional residential building(s) within lot/parcel(s) _____ (except that portion within units _____ to _____ and except for additional parking or recreational facilities and appurtenances)."

15. Building Restriction in a Special Area:

    "We hereby dedicate to the County of Los Angeles the right to prohibit the construction of (residential buildings or other structures) within those areas designated on the map as building restriction areas."

16. Grant in Fee Simple:

    "We hereby grant lot/parcel(s) _____ in fee simple to the (County of Los Angeles) (Los Angeles County Flood Control District)."

17. Dedication of Future Floodway Easement:

    "We hereby offer to dedicate to the Los Angeles County Flood Control District, for the uses and purposes now or hereafter described in the Los Angeles County Flood Control Act, the certain strip of land designated as "Future Variable Width Easement to the Los Angeles County Flood Control District," reserving to ourselves all ordinary uses of said land, except the erection or construction of any structure or improvement for which a building permit is required, until such time as said easement is accepted by the governing body of said District."

    "Portions of (Lots) (Pcls.) _____ & _____ in and adjacent to the natural drainage course(s) are subject to flood hazard."

18. Dedication of Easement When Local Agency is Fee Holder:

    "We hereby set aside for public use (all streets, highways and other public ways) (the easement for storm drain purposes) (the easement for sanitary sewer purposes) shown on said map."

19. Dedication of Future Water Distribution System Easement:

    "We hereby offer to the County of Los Angeles the certain strip(s) of land designated as "Future water distribution system easement" on this map with the right to grant said easement to others, reserving to ourselves all ordinary uses of said land except the erection or construction of any structure not ordinarily placed in water distribution system easements until such time as said easement is accepted by the governing body."

20. Dedication to County Waterworks Districts:

"We hereby grant to Los Angeles County Waterworks District No. _____ an easement for water pipelines and ingress and egress purposes so designated on said map and the right to construct, maintain, operate, and use said pipelines, ingress and egress and appurtenant structures, in and across said easements shown on said map together with the right to enter upon and to pass and repass over and along said easement and right-of-way and to deposit tools, implements and other materials thereon by said district, its officers, agents and employees and by any contractor, his agents and employees engaged by said district whenever and wherever necessary for the purposes above set forth."

Acknowledgements

All acknowledgements must be in accordance with the provisions of Section 1189 of the California Civil Code. The following procedures apply:

A. Any certificate of acknowledgment taken within this state shall be in substantially the following form:

State of California
County of _____

On _____ before me, (here insert name and title of the officer), personally appeared _____

_____

_____

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature _____ (Seal)

B. Any certificate of acknowledgment taken in another place shall be sufficient in this state if it is taken in accordance with the laws of the place where the acknowledgment is made.

C. The certificate of acknowledgment of an instrument executed on behalf of an incorporated or unincorporated entity by a duly authorized person in the form specified in Item A above (Section 1189 of the Civil Code) shall be prima facie evidence that the instrument is the duly authorized act of the entity named in the instrument and shall be conclusive evidence thereof in favor of any good faith purchaser, lessee, or encumbrancer. "Duly authorized person," with respect to a domestic or foreign corporation, includes the president, vice president, secretary, and assistant secretary of the corporation.

D. An acknowledgment provided prior to January 1, 1992, and conforming to applicable provisions of former Sections 1189, 1190, 1190a, 1190.1, 1191, and 1192, as repealed by Chapter 335 of the Statutes of 1990, shall have the same force and effect as if those sections had not been repealed.

SAMPLE NOTES

Sample Notes are to be Shown on Maps When Applicable

1. For existing easements where signatures of current easement holders have been omitted from the final map[1]:

   "The signature(s) of _____, as disclosed by deed recorded in Book _____, Pages _____ of _____, Records of Los Angeles County, has (have) been omitted under the provisions of Section 66436, (a) 3A (I-VII) of the State Subdivision Map Act, their interest is such that it cannot ripen into a fee title and said signature(s) (is) (are) not required by the local agency."

2. For existing easements where signatures are omitted due to non-existence of the easement holders or the current non-use of the easement by the easement holders.

   "The signature(s) of _____, owner(s) of _____, as disclosed by deed recorded in Book _____, Pages _____ of (Deeds) (Official Records), Records of Los Angeles County, has (have) been omitted under the provisions of Section 66436, (a) 3B, of the State Subdivision Map Act, since by reason of changed condition, long disuse, or laches, said interest appears to be no longer of practical use of value and said signature(s) (is) (are) impossible or impractical to obtain."

3. For sites where interest holders own the mineral rights and their signatures are omitted:

   "The signature(s) of _____, owner(s) of _____, (type) of mineral ownership), per deed recorded in Book _____, Pages _____ of (Deeds) (Official Records), Records of Los Angeles County, has (have) been omitted under the provisions of Section 66436, (a) 3C, of the California Government Code."

4. Alternate Section (shown on all map sheets):

   "Dashed lines within street rights-of-way indicate property lines for the purpose of computing required area and building setbacks, as provided in Title 22 of the Los Angeles County Code and are not for the purpose of conveying."

5. Flood Hazard (show the following in 1/4 inch lettering on each affected map sheet. Combine the map sheet notes on the title sheet):

   "Portions/All of lot/parcel(s) _____ are subject to flood hazard."

6. Future Building in which the entire lot/parcel is subject to flood hazard. Show the following in 1/4 inch lettering on each affected map sheet. Combine the map sheet notes on the title sheet:

   "Future buildings shall be constructed above the flood hazard elevation."

7. Tract and Parcel Maps with Lot/Parcel Sizes of Five Acres or More:

   "Further division of this property to lot/parcel sizes below five acres will require standard improvements to be completed as a condition of approval. The improvements will include but not be limited to providing access, installation of water mains, appurtenances and fire hydrants, and conformance to Los Angeles County development standards."

---

[1] Public Utility/Public Entity letter is required when used for a Public Utility or Public Entity.

8. Fee lots that are filed over Lease Lots (both fee and lease lots must have identical descriptions.):

   "Lease lots/parcels ____ of TR/PM No. _____ MB/PMB _____ shall still exist after the filing of this (tract) (parcel) map and may be leased in full compliance with Los Angeles County Code, Title 21."

9. Monument placement (show on title sheet or each map sheet):

   "All 2-inch iron pipes (are) (will be) set (____" deep) (flush)."

10. Bases of Bearings when the bearings are based on a filed survey:

    "The bearings shown hereon are based on the bearing _____ of the (center, side, northerly, etc.) line of (street, section, etc.) as shown on (name of permanent record)."

11. Bases of Bearings when the bearings are adjusted from a filed field survey:

    "The bearings shown hereon are based on the (center, side, northerly, etc.) line of (street, section, etc.) shown as (bearing) on (name of permanent record) and shown as (bearing) on this map."

12. Record Data from recorded or filed survey information:

    "Record data from (Tract No., R.S., etc.)"

13. Flood Control District Consent to Record:

    "Under the authority conferred by Resolution duly and regularly adopted by the Board of Supervisors of the Los Angeles Flood Control District on the 6th day of March, 1962, a certified copy of which was recorded in Book D1543, page 439, of Official Records, Records of Los Angeles County, and amended by Supplemental Resolution on the 23rd day of December 1969, the undersigned consents to the recordation of the within offer to dedicate on behalf of said District. That the _____ shown on said map and herein offered for dedication be and the same is hereby rejected. This consent is not an acceptance of the offer to dedicate."

    Signature _____ (SEAL or STAMP)

    Date _____

    By _____

14. Flood Control District Acceptance:

    Under the authority conferred by Resolution duly and regularly adopted by the Board of Supervisors of the Los Angeles County Flood Control District on the 6th day of March, 1962, a certified copy of which was recorded in Book D1543, page 439, of Official Records, Records of Los Angeles County, and amended by Supplemental Resolution on the 23rd day of December, 1969, the undersigned hereby accepts the interest in real property conveyed by the within dedication or grant to the Los Angeles County Flood Control District, a governmental agency and consents to the recordation on behalf of said District."

    Signature _____ (SEAL or STAMP)

    Date _____

    By _____

15. Subdivision Abandonment:

    a. Easement and Right-of-Way Abandonment:

    "Pursuant to Section 66499.20-1/2 of the Subdivision Map Act, the filing of this (tract) (parcel) map constitutes abandonment of those (streets) (including access restrictions) (and) (easements) (including building restriction rights) acquired by the County of Los Angeles (on Tract No. _____ MB _____) (on Parcel Map No. _____ PMB _____) (by Document No. _____ recorded _____) not shown on this map (except for ____)."

    b. Flood Control District Easement Abandonment:

    "Under the authority conferred by Section 21.16.080 of Title 21, Subdivisions, of the Los Angeles County Code, the filing of this tract map constitutes abandonment of those flood control easements acquired by the Los Angeles County Flood Control District on Tract No. _____ filed in Book _____, pages ____ to ____, inclusive, of Maps, Records of Los Angeles County, not shown on this map."

    (Date) By: _____

    c. County of Los Angeles Easement Non-Abandonment:

    "The filing of this (tract) (parcel) map does not constitute abandonment of the following easements acquired by the County of Los Angeles: _____."

16. Condominium maps one of the following notes should be used (refer to Item VII, C, Page 29-11 for other typical note requirements):

    a. One Common Area:

    "This subdivision (tract) is approved as condominium project [for _____ units], whereby the owners of the units of air space will hold an undivided interest in the common areas which will in turn, provide the necessary access and utility easements for the units."

    b. Several Common Areas (Lots):

    "This subdivision (tract) is approved as condominium project [for _____ units], whereby the owners of the units of air space will hold an undivided interest in all the common areas which will, in turn, provide the necessary access and utility easements for the units. Parcels (Lots) _____ through _____ are common areas."

Note "b" is to be used if there are more than 1 parcel or lot shown on the final map. The phrase [for _____ units] is required only on maps in the unincorporated territory and on city maps if required in the conditions of approval. The word "subdivision" must be used on parcel maps and may be used on tract maps. (If the condominium is for commercial/industrial purposes, substitute [for _____ buildings] in place of [for _____ units]).

    c. Phased condominium developments (It may also be used with regular condominium developments):

    "This subdivision (tract) is approved as _____ unit condominium development consisting of _____ residential lots (parcels) (_____) and _____ common lots (parcels) (_____) whereby each of the owners of a unit will hold an undivided interest in the common areas of the residential lot (parcel) or lots (parcels) in which their unit is located and which lot (parcel) or lots (parcels) is/are covered by a single condominium plan prepared and recorded pursuant to California Civil Code Section 1351. Common lots (parcels) _____ shall either be owned by the Homeowners Association for such condominium development or shall be owned by owners of all condominiums within such condominium development as tenants in common."

17. Lease only maps in the unincorporated territory and when more than one building is to be built on the parcel or lot:

    "Note: ___Number)___ buildings and appurtenant structures, built in compliance with local building ordinances, are permitted on Parcel (Lot) _____ for lease purposes only. If there is more than 1 parcel or lot on a "lease purpose only" map, the note should show No. of buildings allowed on each parcel or lot."

18. Leasehold Condominium Maps:

    "This subdivision (tract) is approved as a leasehold condominium project whereby the lessees of the units of air space will hold a lease on the common area which will, in turn, provide the necessary access and utility easements for the units. The underlying fee will be held by the lessor."

19. Residential Planned Development Projects:

    a. Common Lots (General):

       "This subdivision (tract) is approved as a residential planned development project whereby the common areas will be held in fee by an association made up of the owners of the individual lots. Membership in the Homeowner's Association is inseparable from ownership in the individual lots."

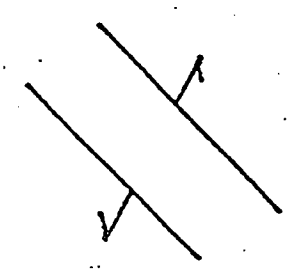
    b. Common Driveways Only:

       "Lot _____ is a common private driveway, to be held in fee by an association made up of the owners of Lots _____ through ____, inclusive, for access, utility easement, and maintenance purposes. Membership in the Homeowner's Association is inseparable from ownership in the individual lots."

20. Parcel map or tract map where a parcel or lot is separated by present or future right-of-way of a public entity or public utility or political boundaries:

    a. Right-of-Way (use land hook symbol shown below):

       "Parcel (Lot) _____, includes property on both sides of (Name of right of way), which must be conveyed as one unit and cannot be separated without further action of the advisory Agency." (See below.)



This symbol shown across the right-of-way denoltes a unit lot or parcel

    b. Political Boundary (do not use a land hook symbol):

       "Parcels (Lots) _____ and _____ must be conveyed as one unit and cannot be separated without further action of the Advisory Agencies."

    c. Private and Future Street (do not use a land hook symbol):

       "When (Name of street), is accepted as a public street, Parcel (Lot) _____ will include property on both sides of said street which must be conveyed as one unit and cannot be separated without further action of the Advisory Agency".

d. Future Street (do not use a land hook symbol):

"When the future street in Parcel (Lot) _____ is accepted as a public street, Parcel (Lot) _____ will include property on both sides of said street which must be conveyed as one unit and cannot be separated without further action of the Advisory Agency."

21. Open Space and Lots (Parcels) that are not a Residential Planned Development:

a. Open Space that is not for Park Purposes:

"Lot (Parcel) _____ is approved as an open space lot (parcel) to be held in common by the owners of lots (parcels) _____ through _____ inclusive or by any successors in interest of any lots (parcels) created by the further division of said lots (parcel) _____ through _____."

b. Open Space that is to be accepted for Park Purposes:

"Lot (Parcel) _____ is approved as an open space lot (parcel) to be held in common by the owners of lots (parcels) _____ through _____ inclusive or by any successors in interest of any lots (parcels) created by the further division of said lots (parcels) _____ through _____ until said lot (parcel) _____ is accepted by the County of Los Angeles for park purposes."

22. Tract maps or parcel maps with 20 acre lots containing geotechnical problems:

"Based on preliminary geotechnical information contained in reports by _____, there are geotechnical problems which may require corrective measures within the boundary of this division of land. Prior to issuance of building or grading permits or construction of the proposed street pattern or further division of the land, additional geologic and/or geotechnical engineering reports will be required by the County of Los Angeles."

23. Restricted Use Area Containing Geotechnical Problems:

"Portions of lots/parcels _____ are subject to geological hazard. (Show in 1/4" lettering on each affected map sheet, combine the map sheet notes on the title sheet. Also dedicate building restriction rights in owner's certificate." (See Dedications 12 and 15 on Page 29-68.)

24. Waterworks District Acceptance:

"This is to certify that the interest in real property conveyed by the within deed or grant to Los Angeles County Waterworks District No. _____, a governmental agency, is hereby accepted and the grantee consents to the recordation thereof."

Director of Public Works

_____ (Date)

_____ Deputy Director of Public Works

25. When a Record Owner(s) certificate is not required:

"Record Owner(s) is/are: _____."

26. Residential Planned Development:

a. Common Areas:

"This subdivision (tract) is approved as a residential planned development project whereby the common areas will be held in fee by an association made up of the owners of the individual lots."

b. Common Driveways Only:

"Lot _____ is a common private driveway, to be held in fee by an association made up of the owners of Lots _____ through _____, inclusive, for access, utility easement, and maintenance purposes."

c. Home Owner's Association Membership:[2]

"Membership in the Homeowner's Association is inseparable from ownership in the individual lots."

27. Landscaping Maintenance District:

a. When Landscape Maintenance District is not Known:

"This subdivision (tract) is approved as a residential planned development project whereby the common areas will be held in fee by an association made up of the owners of the individual lots and/or a Landscape Maintenance District."

b. When Landscape Maintenance District is Known:

"This tract is approved as a Residential Planned Development whereby the open space lots no(s)_____ will be maintained by _____."

[2] Note c. to be added after either Note a. or b.

Sample Public Utility/Public Entity Letters

This sample letter is required from public utilities and public entities requiring easements or rights-of-way to assure compliance with Section 66436 (a) 3A (I-VIII) of the California Subdivision Map Act. These Letters are to be submitted to the Subdivision-Mapping Section of the Department of Public Works, not to the Board of Supervisors. The following sample shall be followed:

Honorable Board of Supervisors
County of Los Angeles
California

Honorable City Council
or City of _____
California

Gentlemen:

(TRACT) (PARCEL MAP) NO. _____

Pleased be advised that the division and development of the property in the manner set forth on the map of (Tract) (Parcel Map) No. _____ will not unreasonably interfere with the free and complete exercise of any easement held by (name of public entity or public entity) within the boundaries of said map.

Sincerely yours,
(Public Utility or Entity)
(Signature)
(Title)

Sample Subdividers Certification for Public Utility/ Public Entity Letters

This certification is required from Public Utilities Entities having easements or rights-of-way:

(Date)

Director of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91803

Attention: Subdivision Section

Dear Sir:

TRACT NO./PARCEL MAP NO. _____

I (We) hereby declare under penalty of perjury that I am (we are) the subdivider(s) or the subdivider's agent(s) of the subject division of land and that I (we) have compiled with the provisions of Section 66436 (a) 3A (I-VII) of the State Subdivision Map Act relative to public entity/public utility rights-of-way/easements. I (we) further declare that the thirty day period specified by Section 66436 (a) 3A (I-VII) has passed and that I (we) have received no response from a public entity/public utility objecting to the omission of their signature or objecting to the finding that the division and development of the property within the subject division of land will not unreasonably interfere with the full and complete exercise of its right-of-way or easements.

(Name if other than an individual)

/s/ (Name if an individual)
(Title if other than an individual)

/s/_____
(Title if other than an individual)

NOTE: All signatures must be acknowledged.

TRACT NO. 23456

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

BEING A SUBDIVISION OF A PORTION OF LOT 83 OF TRACT NO. 1743 AS SHOWN ON MAP FILED IN BOOK 30, PAGES 39 THROUGH 45 INCL., OF MAPS, RECORDS OF LOS ANGELES COUNTY.

FOR CONDOMINIUM PURPOSES

Leave 2"x3" Blank Space for Recorders Stamp

We hereby state that we are the owners of, record holders of security interests therein, or are interested in the land included within the subdivision and project shown on this map within the distinctive border lines and that we consent to the filing of the within condominium plan pursuant to Chapter 1, Title 6, Part 4, Division Second of the Civil Code and to the preparation and filing of said map and subdivision.

We hereby dedicate to the public use all streets, highways and other public ways shown on said map.

And also dedicate to the County of Los Angeles the easement for sanitary sewer purposes so designated on said map and all uses incident thereto, including the right to make connections therewith fron any adjoining properties.

We hereby dedicate to the County of Los Angeles the right to prohibit the construction of additional residential buildings with Lots 33 and 34 except within Units 1-32 and except for additional parking or recreational facilities and appurtenances.

As a dedication to public use while all of Krellman Avenue within or adjacent to this subdivision remains a public street, we hereby abandon all rights of vehicular ingress and egress to the said street, except that portion adjacent to the private driveway. If any portion of said street within or adjacent to this subdivision is vacated, such vacation terminates the above dedication as to the part vacated.

We further state that, except as shown on a copy of this map on file in the Office of the Director of Public Works, we know of no easements or structures existing within the easements herein offered for dedication to the public, other than publicly owned water lines, sewers, or storm drains, that we will grant no right or interest within the boundaries of said easements offered to the public, except where such right or interest is expressly made subject to the said easements.

Corp. Seal

ACE HOMES, INC., a corporation (Owner)

_____ President _____ Secretary

HOME TITLE COMPANY, a corporation
Trustee under deed of trust recorded in Book T2908, Page 1 of Official Records

Corp Seal

_____ Vice President _____ Assistant Secretary

PINE PROPERTIES, a corporation
Beneficiary under deed of trust recorded in Book T2908, Page 1 of Official Records

Corp. Seal

_____ President _____ Secretary

State of California)
County of Los Angeles) S.S.

On this _____ day of _____, 1975, before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Secretary of ACE HOMES, Inc., the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

(Signature) (NOTARY SEAL)
Notary Public

State of Califorina)
County of Los Angeles) S.S.

On this ____ day of _____, 1975, before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Assistant Secretary of Home Title Company, the corporation that executed the within instrument and acknowledged to me that such corporation executed the same as trustee.

(Signature) (NOTARY SEAL)
Notary Public

State of California)
County of Los Angeles) S.S.

On this ____ day of _____, 1975, before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Secretary of Pine Properties, the corporation that executed the within instrument and acknowledged to me that such corporation executed the same as beneficiary.

(Signature) (NOTARY SEAL)
Notary Public

I hereby state that I am a Registered Civil Engineer of the State of California; that this final map, consisting of 4 sheets is a true and complete survey as shown and was made by me or under my direction on March 2, 1975, that the monuments of the character and locations shown hereon are in place or will be in place within twenty-four months from the filing date of this map; that said monuments are sufficient to enable the survey to be retraced and that tie notes to all centerline monuments shown as "to be set" will be on file in the Office of the Director of Public Works within twenty-four months from the filing date shown hereon.

(Signed)
R.C.E. No.

The bearing N89°45'00"E of the centerline of Krellman Avenue as shown on Tr. No. 1743, M.B. 30-39-45 was used as the basis of bearing on this map.

All 2" I.P. are set flush.

Bench Mark: S.Y. 3774, L.A. Co. Rd. Dept. L&T in N. curb of Krellman Avenue, 10°W'ly of B.C. Curb return at Emerson Blvd. E1-526341 (1968)

The County of Los Angeles is an easement holder for Sanitary Sewer purposes per O.R.50167-396.

Leave 2"x3½" Blank Space for Clerk of the Board Certificate

Leave 4"x5" Blank Space for the Board of Supervisers Acceptance Certificate

Leave 2"x4" Blank Space for the County Engineer Certificate

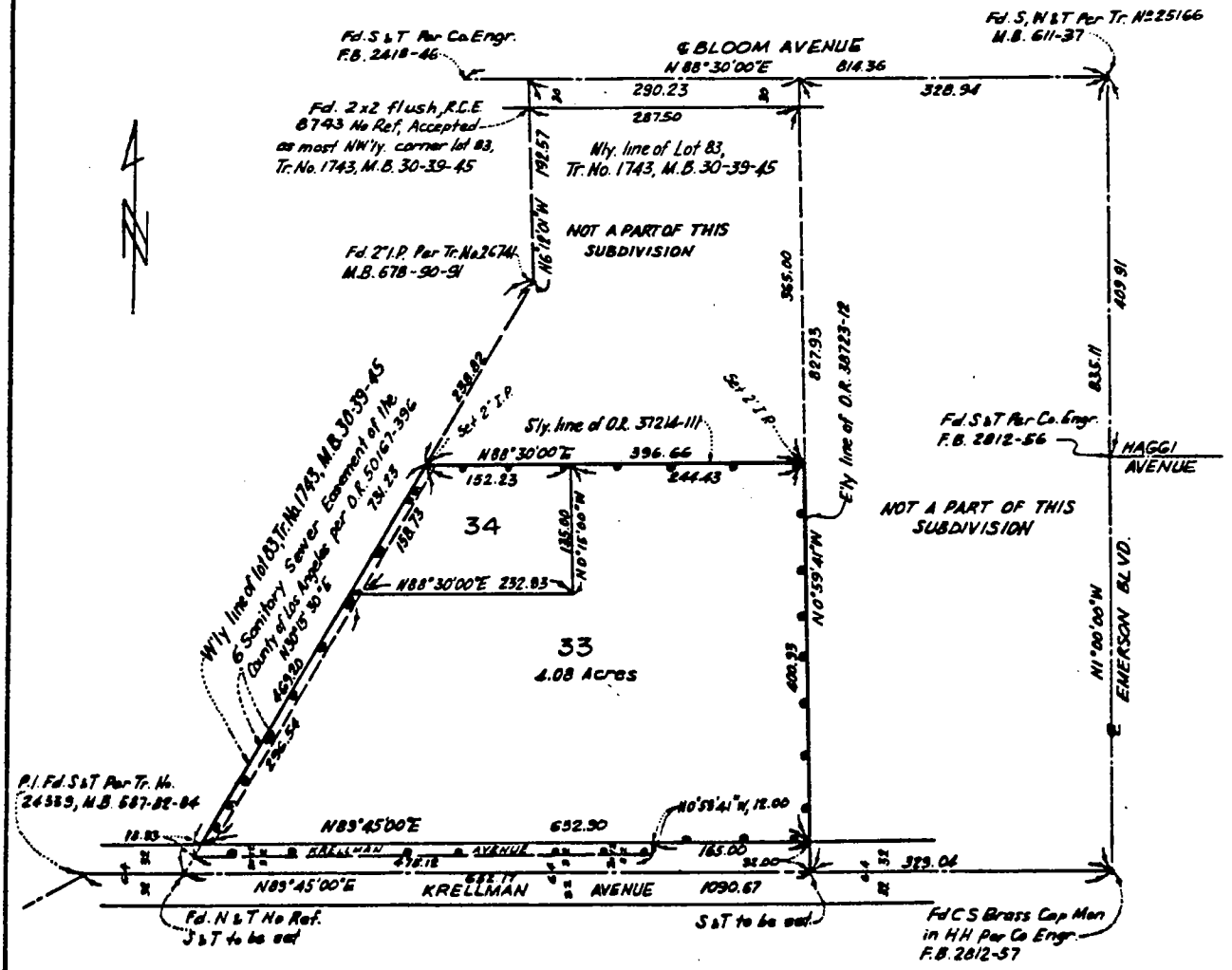
SCALE: 1=80

SHEET 2 OF 4 SHEETS

TRACT NO. 23456

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA FOR CONDOMINIUM PURPOSES

Indicates the boundary of the land being subdivided by this map.



SCALE: 1"=40'

SHEET 3 OF 4 SHEETS

TRACT NO. 23456

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA FOR CONDOMINIUM PURPOSES

LOWER ELEVATIONS (L.E.)

UNIT	ELEMENTS A	B	C	D
1	525.63	524.47	524.63	524.93
2	525.63	524.47	524.63	524.63
3	525.03	523.87	524.03	524.33
4	525.03	523.87	524.03	524.03
5	524.43	523.27	523.43	523.73
6	524.43	523.27	523.43	523.43
7	521.48	521.98	522.15	520.48
8	521.48	521.98	522.15	520.18
9	520.88	521.38	521.55	519.88
10	520.88	521.38	521.55	519.58
11	520.28	520.78	520.95	519.28
12	520.28	520.78	520.95	518.98
13	519.68	520.18	520.35	518.68
14	519.68	520.18	520.35	518.98
15	522.55	520.78	520.95	521.35
16	522.55	520.78	520.95	521.65
17	523.05	521.38	521.55	522.25
18	523.05	521.38	521.55	522.55
19	523.65	521.98	522.15	522.85
20	523.65	521.98	522.15	523.15
21	524.43	523.27	523.43	524.05
22	524.43	523.27	523.43	524.35
23	525.03	523.87	524.03	524.95
24	525.03	523.87	524.03	525.25
25	525.63	524.47	524.63	525.55
26	525.63	524.47	524.63	525.85
27	527.74	527.14	527.40	527.04
28	527.74	527.14	527.40	526.74
29	527.14	526.64	526.80	526.44
30	527.14	526.64	526.80	526.14
31	526.54	526.04	526.20	525.84
32	526.54	526.04	526.20	525.54

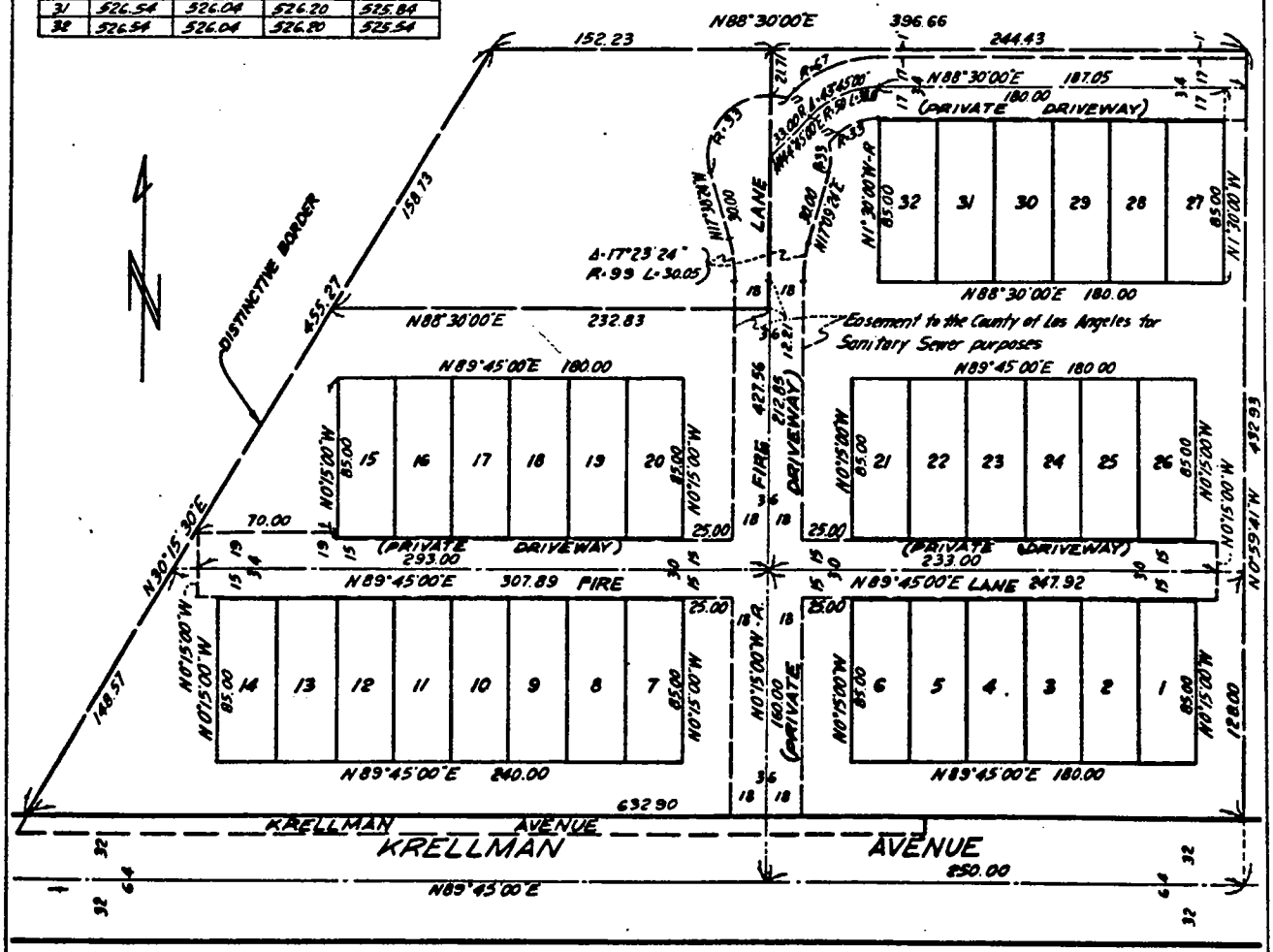
1. Upper limit elevations for element A is 8.08 ft. above L.E.
2. Upper limit elevations for element B is 10.00 ft. above L.E.
3. Upper limit elevations for element C is 8.50 above L.E.
4. Upper limit elevations for element D is 10.00 ft above L.E.

Note: All Private Driveways shown hereon are sanitary sewer easements dedicated to the County of Los Angeles.

The following notes from the attached sheets would probably appear hereon: 1, 3, 5, 7, 9 and 10 Notes 4, 8, 11 and 12 would be modified as follows.

4. Elements designated hereon as 'A' are dwelling areas. Elements designated hereon as 'C' are garage areas. Elements designated hereon as 'B' and 'D' are patio areas.
8. The boundaries of elements 'A' and 'C' set forth hereinabove are measured to the interior surfaces of the perimeter walls, floors, ceilings, windows and doors thereof, and the boundaries of elements 'B' and 'D' are measured to the exterior surfaces of the perimeter walls, windows, and doors thereof, where they exist, or vertical and horizontal planes at the limits of the dimensions shown.
11. All ties from lot lines are to exterior boundaries of buildings unless otherwise indicated.
12. The common party wall thickness is 0.84 feet.

UNIT LOCATION PLAN



TRACT NO. 13456

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

BEING A SUBDIVISION OF A PORTION OF LOT 83 OF TRACT NO. 1743 AS SHOWN ON MAP FILED IN BOOK 30, PAGES 39 THROUGH 45 INCL., OF MAPS, RECORDS OF LOS ANGELES COUNTY

FOR CONDOMINIUM PURPOSES

Leave 2"x3½" Blank Spote for Recorders Stamp

We hereby state that we are the owners of or are interested in the lands included within the subdivision shown on this map within the distinctive border lines and we consent to the preparation and filing of said map and subdivision.
We also dedicate to the County of Los Angeles the easement for sanitary sewer purposes so designated on said map and all uses incident thereto, including the right to make connections therewith from any adjoining properties.
We hereby dedicate to the public use all streets, highways, and other public ways shown on the map.
As dedication to public use, while all of Krellman Avenue within or adjacent to this subdivision remains a public street, we hereby abandon all rights of vehicular ingress and egress to the said street, except that portion adjacent to the private driveway. If any portion of said street within or adjacent to this subdivision is vacated, such vacation terminates the above dedication as to the part vacated.
We further state that, except as shown on a copy of this map on file in the Office of the Director of Public Works, we know of no easements or structure existing within the easements herein offered for dedication to the public, other than publicly owned water lines, sewers or storm drains, that we grant no right or interest within the boundaries of said easements offered to the public except where such right or interest is expressly made subject to the said easements.

ACE HOMES, INC. a corporation (Owner)

_____ _____
President Secretary

HOME TITLE COMPANY, a corporation
Trustee under deed of trust recorded in Book T2908,
Page 1, of Official Records

_____ _____
Vice President Assistant Secretary

State of California)
County of Los Angeles) S.S.
On this _____ day of _____, 1975 before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Secretary of ACE HOMES, Inc., the corporation that executed the within instrument and acknowledged to me that such corporation executed the same.

_____ (Signature) (NOTARY SEAL)
Notary Public

State of Califorina)
County of Los Angeles) S.S.
On this ___ day of _____, 1975, before me _____, a Notary Public in and for said State, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence, to be the President and _____ personally known to or proved to me on the basis of satisfactory evidence, to be the Assistant Secretary of Home Title Company, the corporation that executed the within instrument and acknowledged to me that such corporation executed the same as trustee.

_____ (Signature) (NOTARY SEAL)
Notary Public

This tract is approved as a condominium project whereby the owners of the units of air space will hold an undivided interest in the common areas, which will in turn, provide the necessary access and utility easements for the area.

I hereby state that I am a Registered Civil Engineer of the State of California; that this final map, consisting of 2 sheets, is a true and complete survey as shown and was made by me or under my direction on March 2, 1975, that the monuments of the character and locations shown hereon are in place or will be in place within twenty-four months from the filing date of this map; that said monuments are sufficient to enable the survey to be retraced and that tie notes to all centerline monuments shown as "to be set" will be on file in the office of the Director of Public Works within twenty-four months fron the filing date shown hereon.

_____ (Signed)
R.C.E. No.

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The County of Los Angeles is an easement holder for Sanitary Sewer purposes per O.R.50167-396.

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Leave 4"x5" Blank Space for the Board of Supervisors Acceptance Certificate

Leave 2"x 4" Blank Space for the County Engineer Certificate

SCALE: 1" = 80'

SHEET 2 OF 2 SHEETS

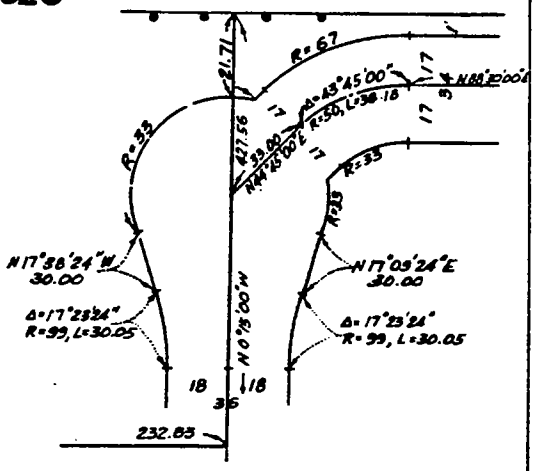
TRACT NO. 13456

IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA FOR CONDOMINIUM PURPOSES

Note:

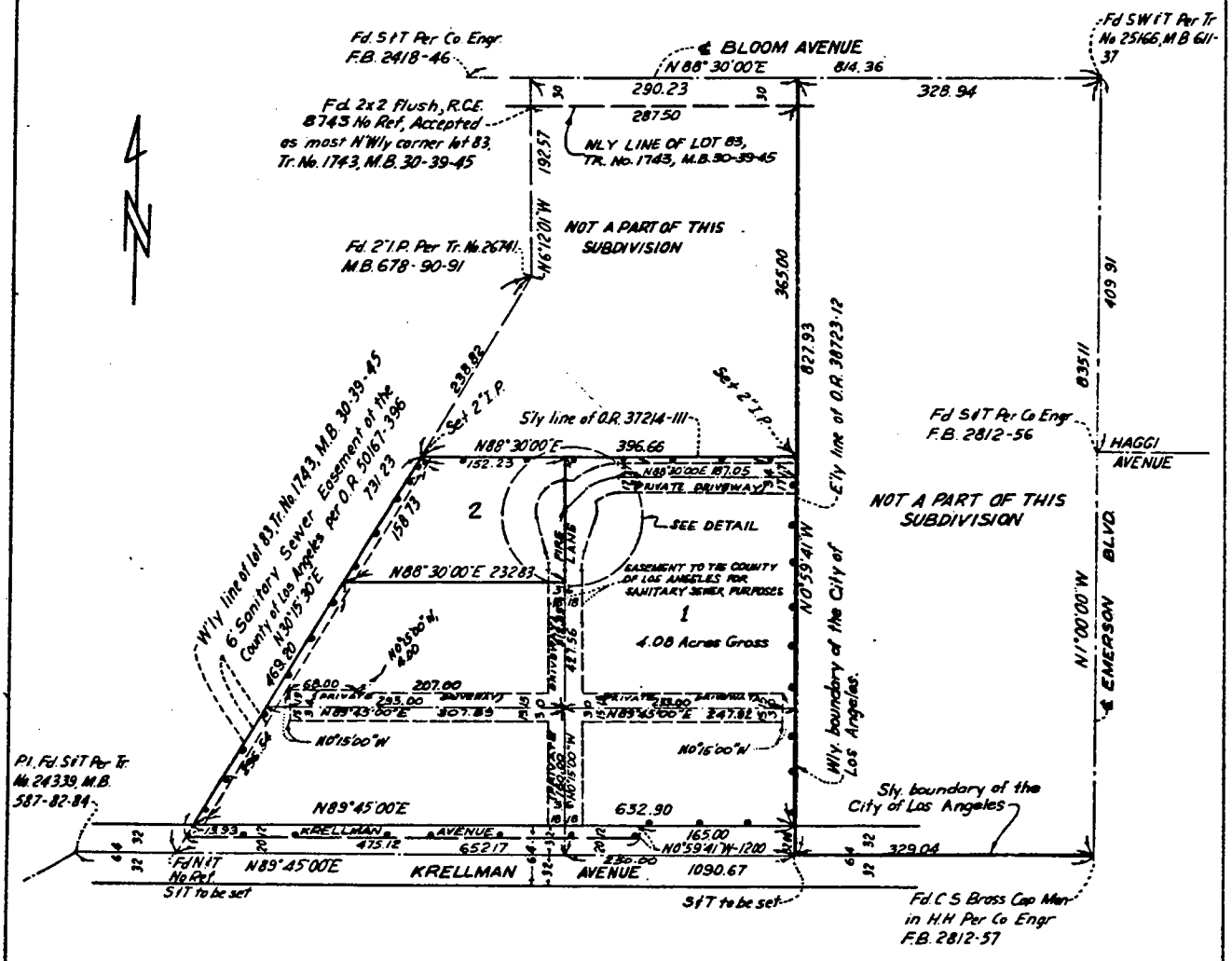
All Private Driveways shown are sanitary sewer easements dedicated to the County of Los Angeles.

Indicates the boundary of the land being subdivided by this map.



DETAIL

No Scale



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EASEMENT WITH STRUCTURES LETTER

_____
(Date)

Department of Public Works
Building and Safety/Land Development Division
Subdivision Section
900 South Fremont Avenue
Alhambra, California 91803-1331

Gentlemen:

As a result of a thorough research of records by me and a field inspection, I hereby notify your office that within the boundaries of the final map for _____ there are (check one).

_____ Existing structures within the easements being offered for public use.

_____ No structures within the easements being offered for public use.

_____
Signature of Engineer or Surveyor
Preparing the Final Map

THIRTY-DAY NOTICE SAMPLE LETTER

Date:

Dear:

TRACT NO. _____

The County of Los Angeles is preparing to approve the subject final map in approximately one month authorizing conversion of your apartment building to a condominium or stock cooperative. Pursuant to Chapter 8.48 "Condominium Conversion" of Title 8 of the County Code, you may be entitled to relocation assistance if you are not planning to purchase your present rental unit.

If you were not informed prior to occupying your present rental unit or signing a rental agreement, whichever occurred first, that an application to convert was pending, then the applicant for the conversion should have provided you with a copy of a covenant and agreement which lists the assistance available to you. If you have not received a copy of this covenant and agreement for your unit, please contact the following applicant:

_____

_____

_____

If after you have reviewed the covenant and agreement you believe the applicant has not complied with the conditions therein, please notify this office at the following address of this lack of compliance:

_____

_____

_____

The notification must be in writing and must state the specific section of the covenant and agreement for which compliance has not been met. This written notification must be received by _____.

Very truly yours,

Subdivision Section

sample1:2

SAMPLE OF 30-DAY NOTICE WAIVER

I(We), the tenant(s) of Unit Number _____, understand that this building is being considered under Tentative Tract No. _____ for conversion to a condominium. I(We), understand my (our) rights under Chapter 8.48 "Condominium Conversion" of Title 8 of the Los Angeles County Code for tenant relocation assistance.

I(We), have received the 30-day notice sent out by the County Engineer and I(We), the undersigned, do hereby acknowledge and agree that the Applicant has complied with each and all of the applicable terms of the Covenant and Agreement recorded against the property as required by Section 8.48.080(B) of this Code and, accordingly, do hereby waive the 30-day notice period and right of hearing specified in Section 8.48.100(A) of this Code.

_____ _____

Signature of Tenant Signature of Tenant

State of California)
County of Los Angeles)
On this _____ day of _____, 19___ before me _____, a Notary Public in and for said State, personally appeared _____, known to me to be the person(s) whose name(s) is(are) subscribed to the within instrument and acknowledged to me that (he)(she)(they) executed the same.

_____

Notary Public

S A M P L E L E T T E R

FOR REQUIRING COVENANTS & AGREEMENTS

Date:

Dear:

TRACT NO. _____

This office has received your letter dated _____. In the letter you stated you have not received anything regarding the condominium conversion prior to our, "30 Day Notice of Intent to Record" letter. Have you contacted the following applicant, _____

of:

_____

_____

_____

as was stated in that letter for a copy of the covenant and agreement? So that the proper findings can be made, this office must know, within two weeks from the date of this letter, what results you had in obtaining said covenant and agreement.

If after having received the covenant and agreement you further believe the applicant has not complied with the conditions therein, please notify this office in writing at the following address:

_____

_____

_____

State in your notification letter the specific section of the covenant and agreement for which compliance has not been met. This written notification must be received by _____.

Very truly yours,

Subdivision Section
sample:2

CHAPTER 30

DRAFT

GRADING PLANS AND SUPPORTING DATA

All grading is subject to the requirements of Chapter 70 and Sections 308 through 311 of Title 26 of the County Code (Building Code). Chapter 15 of this Manual describes the procedure for submitting an application for grading plan check and Chapter 16 describes the procedure for grading inspection procedures as it affects the Land Development Division.

The following are the requirements as to when a grading plan must be submitted, who can prepare grading plans, the contents of grading plans and the supporting data necessary to be submitted for approval.

I. When Grading is Required

A grading permit is required for all excavations not covered by other County approved plans except in the following cases:

A. An excavation less than 3 feet vertical in depth below the existing ground surface.

B. A fill not intended to support structures and which does not obstruct a drainage course if such fill (a) is placed on natural grade that has a slope not steeper than five horizontal to one vertical and is less than one foot deep, or (b) is less than 3 feet in depth at its deepest point, measured vertically upward from natural grade to the surface of the fill, and does not exceed 50 cubic yards, or (c) does not exceed 20 cubic yards on any one lot.

C. An excavation below finish grade for basements and footings of structures authorized by a valid building permit or trench excavations for the purpose of installing underground utilities.

D. Grading within property dedicated or used for cemetery purposes where such grading is more than 100 feet from the property line and is not intended to support structures. No permit shall be required for the excavation or filling of graves at any location within such property.

E. Mining, quarrying, excavating, processing, stockpiling of rock, sand, gravel, aggregate or clay, where established and provided for by law, provided that such operations do not affect the lateral support or increase the stresses in, or pressure upon, any adjacent or contiguous property.

(Contact the Department of Regional Planning to obtain a surface mining permit.)

F. Grading in an isolated, self-contained area if the building official finds that no danger to private or public property can now or hereafter result from the grading operations.

G. The depositing of rubbish or other material at any refuse-disposal facility operated under a permit granted according to the terms of Division 4, entitled "Solid Waste," of Title 20 of the Los Angeles County Code.

H. An excavation or fill in connection with the making of an earth fill dam, reservoir or levee when the quality of such work is regulated by other laws, statutes or ordinances.

I. An excavation, fill, and/or measures approved by the Soil Conservation District or cooperative agency of the Department of Agriculture.

J. An excavation or fill by the Department of Public Works in connection with and necessary to the support, construction, or maintenance of a public road when such is located within an easement granted to the county for road or slope purposes.

K. Exploratory excavations under the direction of a geotechnical engineer or engineering geologist.

L. Grading for an oil and/or gas drilling site which is located in an existing oil field as designated by the State Division of Oil and Gas and is 1,000 feet from a public highway and 500 feet from the nearest residence. The proposed grading must not result in the deposition of silt and debris onto downstream property.

II. Who Can Prepare Grading Plans

Grading plans must be signed by a registered civil engineer who has taken personal responsibility for the grading design. Geotechnical and structural engineers are civil engineers. No other professionals such as architects and landscape architects may sign grading plans in lieu of the civil engineer. Grading plans for small and unimportant work as defined on Page 70-04 of the Building Code Manual may be accepted by the Department without the signature of a registered civil engineer. This type of grading plan will usually not be accepted by Land Development Division for review and approval. (See Chapter 53 of this Manual.)

III. Grading Plan Design Criteria

Grading plan design criteria is summarized in check list presented in Chapter 14 of this Manual. The following are detailed guidelines for preparing grading plans:

A. Building Sites and Pads

All graded building sites (including building pads) shall have a minimum slope of two percent towards a public street or a drainage structure approved to receive storm waters. Exceptions to this statement are presented in Chapter 53.

B. Access Requirements

The grading plans must indicate adequate access to each building pad. This access must meet the minimum requirements for a driveway in Section 22.52.1030 of Title 22 of the County Code (Zoning Code). Driveways must not be less than 10 feet in width throughout and must not have a slope that exceeds 20 percent. Where there is a change in slope grade, it must be demonstrated to the satisfaction to the Department that vehicles can pass over such change in slope without interference with their undercarriages. The design criteria shown on Page 30-13 is considered a satisfactory design criteria. The driveway must also meet Fire Department requirements which are presented in Item J on Page 30-7.

The grading plans for tracts must also indicate adequate road access in accordance with Part 1 - Chapter 21.24 of Title 21 of the County Code (Subdivision Code). The grading and road plans must be coordinated (see Chapter 44 of this Manual.)

C. Fill Compaction Requirements

All fills must be compacted to a relative compaction of 90 percent of maximum density. The maximum density test shall be in accordance with ASTM D1557-78, Method "D" as noted in the Grading Correction Sheet. (See Chapter 14 of this Manual.) The fills must be certified in accordance with Section 7021 (c) of Title 26 of the County Code.

Exceptions to these requirements are in Section 70.20 of the Building Code Manual (see Pages 30-14 through 30-16).

D. Slope Location

The top and toe of slopes must be located according to the following criteria based on submitted and observed information such as where potential adverse geologic conditions are apparent:

1. Cut and fill slopes shall be set back from site boundaries in accordance with Chapter 29 of Title 26 of the County Code (Building Code). Setback dimensions shall be horizontal distances measured perpendicular to the site boundary.

2. The top of cut slopes shall not be made nearer to a site boundary line than one-fifth of the height of cut with a minimum of 2 feet and a maximum of 10 feet. The setback may need to be increased for any required intercepter drains.

3. The toe of a fill slope shall not be made nearer to the site boundary line than one-half of the height of the slope with a minimum of 2 feet and a maximum of 20 feet. Where a fill slope is to be located near the site boundary and the adjacent property is developed to such grading, special precautions shall be incorporated in the work as the Building Official deems necessary to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to:

   a. Additional setbacks.

   b. Provision for retaining or slough walls.

   c. Mechanical or chemical treatment of the fill slope surface to minimize erosion.

   d. Provisions for the control of surface waters.

4. The setback and other restrictions imposed by the Building Code may be increased where unusual soil or geologic conditions make such increase necessary for safety or stability or may be modified upon investigation and recommendation by a soil engineer or geologist where such modification will provide equivalent safety, stability and protection and the Building Official so finds.

E. Cut and Fill Slope Angles

All cut and fill slopes 2 horizontal to 1 vertical or flatter may be utilized without an analysis being required. Analysis may be required when there is insufficient information or when geotechnical information exists that indicates that the slope may not be stable.

It is the responsibility of the applicant to provide data and analyses to the satisfaction of reviewing geotechnical personnel that all slopes steeper than 2 horizontal to 1 vertical will be stable in accordance with County Minimum Standards. (See Chapter 49 of this Manual for required geotechnical information.)

F. Drainage, Planting and Irrigation of Slopes

All slopes described below must be designed so they meet County requirements. Reference is made to Pages 14-26 and 14-27 in Chapter 14 which describes the basic requirements for hillside planting and irrigation. The following are County requirements:

1. Drainage, Planting and irrigation plans shall be submitted for all slopes required to have drainage devices and/or be planted and irrigated. Except as waived by the Building Official for minor grading, the drainage plans for slopes 20 feet or more in vertical height shall be prepared and signed by a civil engineer. The planting and

irrigation plans shall be prepared and signed by either a civil engineer or landscape architect.

2. The top and benches of all manufactured slopes require some form of protection through the use of a berm or swale in accordance with Chapter 70 of Title 26 of the County Code. All manufactured slopes must have drains in accordance with the requirements of Chapter 70 of Title 26 of the County Code and the Building Code Manual. These drains must be a part of the overall lot drainage system. (See Item G beginning on Page 30-5.)

3. All terrace and down drains must be paved unless it can be shown to the satisfaction of the Department that erosion of the fill and or natural materials will not be eroded by the anticipated flows. The paving shall consist of reinforced concrete or gunite, three (3) inches minimum thickness with 6 inch by 6 inch - 10 gauge by 10 gauge welded wire mesh placed at least one inch from the bottom of the slab.

4. Downdrains on slopes shall be located entirely on one lot and shall collect drainage from bench drains.

5. All terraces must be accessible for maintenance. This includes determining the size of equipment required to maintain the terrace and drainage system. Then an adequate access must be designed to permit the equipment to reach the terrace.

6. Transition structures or equivalent alternate for slope drainage systems shall be located at the intersection of the bench drains and the downdrains. Walls should extend approximately five (5) feet in both directions.

7. The surface of all cut slopes more than five feet in height and fill slopes more than three feet in height shall be protected against damage by erosion by planting with grass or ground cover plants. Slopes exceeding 15 feet in vertical height shall also be planted with shrubs, spaced at not to exceed 10 feet on centers; or trees, spaced at not to exceed 20 feet on centers; or combination of shrubs and trees at equivalent spacings, in addition to the grass or ground cover plants. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site and in accordance with standard specifications on file in Building and Safety Division or Drainage and Grading Section.

   Planting need not be provided for cut slopes rocky in character and not subject to damage by erosion and any slopes protected against erosion damage by other methods when such methods have been specifically recommended by a soils engineer, engineering geologist, or equivalent authority and found to offer erosion protection equal to that provided by the planting specified in this Section.

   Plant material shall be selected which will produce a coverage of permanent planting effectively controlling erosion. Consideration shall be given to deep rooted plant material needing limited watering, to low maintenance during the lifetime of the project, to high root to shoot ratio (weight of above ground parts versus root system), wind susceptibility and fire retardant characteristics.
   As a guide for planting design, see Pages 30-17 and 30-18 for recommendations. It should be noted that ivy or ice plants listed on Page 30-17 should not be utilized on tall slopes as they are subject to sliding down the slope in the event of heavy rain falls.

8. Slopes required to be planted under Item 5 shall be provided with an approved system of irrigation, designed to cover all portions of the slope and plans therefore shall be

submitted and approved prior to installation. A functional test of the system may be required.

For slopes less than 20 feet in vertical height, hose bibs to permit hand watering will be acceptable if such hose bibs are installed at conveniently accessible locations where a hose no longer than 50 feet is necessary for irrigation.

The requirements for permanent irrigation systems may be modified upon specific recommendation of a landscape architect or equivalent authority that because of the type of plants selected, the planting methods used and the soil and climatic conditions at the site, an irrigation system will not be necessary for the maintenance of the slope planting.

9. The planting and irrigation systems required by this Section shall be installed as soon as practical after rough grading. Prior to final approval of grading and before the release of the grading security, the planting shall be well established and growing on the slopes and, where required by Item 8, there shall be evidence of an effective rodent control program.

10. Fill slopes steeper than two horizontal and one vertical within a grading project located adjacent to undeveloped and unoccupied land determined by the Agricultural Commissioner to be infested by burrowing rodents, shall be protected from potential slope damage by a preventive program of rodent control.

Reports that reflect conditions which are not in agreement with the approved grading plans shall be submitted to the developer's project or field engineer and to the Building Official by the appropriate consultants.

G. Lot Drains

Lot drains shall meet the following criteria:

1. Generally, all lot drains should consist of open reinforced concrete or gunite swales directing flow to the street right of way line where a transition to an acceptable drainage device, depending upon street conditions and flow volume, is to be provided. The slab shall meet the requirements for terrace and down drains in Item F.3. and 4.

2. All lot drains and slopes shall be located on the lower lot in elevation and laid on a 2% minimum slope. If debris is a factor, the minimum slope shall be that which will produce a scouring velocity.

3. The minimum acceptable grade for drainage on large grading projects such as condominiums, trailer parks and industrial sites is 0.5% for concrete swales (1% or greater is preferable).

4. When the lot drain must be a closed conduit, clean-outs shall be installed at the street right of way line and at equal intervals between the street right of way line and the inlet of the lot drain. In no case shall the interval between clean-outs be more than 35 feet apart.

5. Outlets of lot drains located in "Private and Future" or dedicated public streets with a storm drain system may be connected directly into the storm drain. Refer to the road requirements in Chapter 44 and private drain requirements in Chapter 36 and grading plan drainage requirements in this chapter.

6. On-site storm drain systems whenever on-site drainage systems are required on a grading plan, plan details and data in accordance with Department policy are required. (See Item VI.E.6 beginning on Page 30-12.)

   All drainage swales must be paved with gunite or concrete reinforced with welded wire mesh. This may be waived if it can be shown by presenting data and analyses to the satisfaction of both the Drainage and Grading and Materials Engineering Division that the existing ground is non-erosive. The analyses must be based on hydraulic and geologic factors consisting of anticipated flow velocities and the ground hardness.

   Slope shapes and Drainage systems may be designed in accordance with the sketches shown on Pages 33-19 through 30-27. Any special design must meet the policies of this Department.

7. All lot drains must be accessible for maintenance.

H. Walls and Fences

Walls (County Engineer Standard D-65), fences (APWA Standard Drawing 600-0) or combination wall and fences (County Engineer Standards D-63) as required by the Department of Regional Planning shall be shown and called out on the grading plan. Retaining walls shall be shown on the grading plans and shall require a separate building permit from Building and Safety Division. (See Page 30-28 through 30-33 for copies of the County Engineer Standard Plans.)

Whenever Regional Planning Department requires walls, fences or combination walls and fences, they shall be built according to the following standard plans:

Walls	County Engineer Standard Plan No. D-65 (See Pages 30-31 through 30-33)
Fences	APWA Standard Drawing 600-0
Combination Walls and Fences	County Engineer Standard Plan No. 63 (See Pages 30-28 through 30-30)

The locations of the walls and/or fences must be shown on the grading plan. If the grading plan requires retaining walls, or fences or walls greater than 6 feet height, a separate building permit and approval from Building and Safety Division is required for the retaining walls for these items before issuance of a grading permit. Wrought iron fencing will be acceptable in lieu of chain link fencing if it is to be maintained by a home owners association and not the County. Fencing can be placed on the property line but not within County easements.

Splash and slough walls are often required a part of the drainage system. The design of these walls are site specific depending on the design flow volume and velocity.

The location of splash walls is specified in Item F on beginning on Page 30-3. Slough walls may be acceptable to direct flows from watersheds that are too small to require a debris catchment system.

I. Foundations on or Adjacent to Slopes

The placement of buildings and structures on or adjacent to slopes steeper than 3 horizontal to 1 vertical shall be in accordance with Section 2907 of Title 26 of the County Code (Building Code). The provisions are intended to provide protection to the building from

water from natural sources, mudflow, loose slope debris, shallow slope failures and foundation movement.

In general, buildings below the toe of slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion and shallow failures. Except as provided for in the Building Code, the following described criteria will be assumed to provide this protection. Buildings shall be set back from the toe of slopes a distance equal to one-half the vertical height of the slope above the top of the foundation with a minimum clearance of three feet and a maximum clearance of 15 feet. A detached one-story accessory building not used for living purposes which does not exceed 600 square feet in area may extend to within three feet of the toe of the slope. Where existing slope is steeper than 1 horizontal to 1 vertical, the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees to the horizontal. Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.

Footings on or adjacent to the top of slopes shall be founded in firm material with an embedment and setback from the slope surface sufficient to provide vertical and lateral support for the footing without the detrimental settlement. Except as provided for in the Building Code, the following described setback criteria is deemed adequate to meet the criteria. Footings shall be placed into firm material and located a distance of one-third the vertical height of the slope with a minimum of 5 feet and a maximum of 40 feet measured horizontally from the slope surface to the lower edge of the footing. Where the slope is steeper than one vertical to one horizontal, the required setback shall be measured from an imaginary plane 45-degrees to the horizontal, projected upward from the toe of the slope.

See Page 30-34 for typical details for building setbacks.

J. Fire Access Requirements

As described in Chapter 14, special fire access requirements for subdivisions are to be shown on the grading plan to the satisfaction of the Forester and Fire Warden in accordance with Title 32 of the County Code (Fire Code). These requirements apply to single family lots where there is no access from two directions and for other developments. They are presented on Pages 30-35 through 30-52.

K. Paving

All paving for parking lots, private driveways (streets) serving subdivisions and driveways required for flag lots must meet the minimum requirements under Section 22.52.1060 of Title 22 of the County Code (Zoning Code). The paving design must be adequate for its intended use and must be to the satisfaction of the County. All paving for fire fighting access easements shall be adequate for the loads from the anticipated fire fighting equipment and must be to the satisfaction of the County.

The Forester and Fire Warden requires that the access road meet Department of Public Works Standards for streets and that the minimum paving requirements are three inches of asphaltic concrete on four inches of base material.

All private and future streets (those that may be eventually accepted by the County) must be designed in accordance with the requirements of Chapter 44 of this Manual.

All paving for mobile home divisions of land must meet the requirements of Section 21.24.200 of Title 21 of the County Code and Section 22.52.1060 of Title 22 of

the County Code and must be to the satisfaction of the Road Unit of Land Development Division.

L. Oak Trees

Whenever a site subject to development has oak trees of any genus which are 25 inches or more in circumference (eight inches in diameter), an oak tree permit must be obtained. This permit is established to recognize oak trees as significant historical, aesthetic and ecological resources and to create favorable conditions for the preservation and propagation of this unique irreplaceable plant heritage for the benefit of current and future residents of Los Angeles County.

The regulations for meeting County requirements regarding the preserving and protection of Oak Trees is in Part 16 - Chapter 22.56 "Oak Tree Permits" in Title 22 of the County Code (Zoning Code). This permit is administered by Regional Planning Department and this Department must have proof of an Oak Tree Permit if there are Oak Trees on the Site before and development permit can be issued. Chapter 50 describes documents available regarding the care and protection of Oak Trees.

M. Other Improvements

Other improvements requiring other approved plans must be referenced on the plans. These improvements usually consist of but not limited to Building Plans, Private and/or Miscellaneous Transfer Drains, private contract sewers, trunk sewers, dedicated and/or private streets, alleys, pedestrian ways, highways, and other utilities.

The grading plans cannot cover work within the easements of others unless so noted. If the work is to be done simultaneously, the plans should note that all plans must be approved prior to the start of the work. (See Item VI.F. on Page 30-12.)

IV. Supplemental Data

In addition to the basic grading plan and earth moving data, the following information may be required before plan approval:

A. Geotechnical Reports

The Building Official may require an engineering geology or a geotechnical engineering investigation and report, or both, based on the contents of the grading plan. The engineering geology report and the geotechnical engineering report must provide sufficient data to verify the stability and safety of the site (see Chapter 49 of this Manual for guidelines for reports).

Geotechnical reports are commonly required inclusive of the following circumstances:

1. There are cut, fill and natural slopes steeper than 2 horizontal to 1 vertical.

2. Subdrains are proposed.

3. There are engineered certified compacted or non-compacted fills greater than 3 feet in thickness.

4. A geologic hazard has been identified.

5. There are suspected materials subject to expansive or compressive behavior.

6. There are suspected materials that may be deleterious to the anticipated construction materials.

7. There is grading in a watercourse.

8. Special foundations may be required.

B. Drainage Reports

The proposed grading may require various drainage structures. County requirements for drainage structures are described elsewhere in Part III of this Manual.

C. Off-Site Grading and Drainage Facilities

When privately maintained drainage facilities are proposed to be constructed on off-site property or when these facilities, as proposed, affect the adjacent property owners, 2 copies of the notarized drainage release letter must be submitted in accordance with the instructions on Pages 30-53 through 30-66.

V. Storm Drain Plans

Some storm drain plans may be made a part of the grading plan if determined acceptable to the satisfaction of the Department of Public Works with the understanding that these systems will not be transferred to the Flood Control District for maintenance. (See Item I on Page 36-1, Chapter 36 of this Manual for the basis of this determination.)

Those storm drains that are to be transferred to the County of Los Angeles or the Flood Control District may be on separate plans such as Private Drains, Miscellaneous Transfer Drains, etc. Where required, these storm drain plans shall be prepared in accordance with the requirements of Chapter 36 and 37 of this Manual. The following conditions must be part of the grading plan:

A. The alignment, easements and storm drain number must be shown on the grading plan (See Item VI.D.10 and 16 beginning on Page 30-10).

B. When storm drain facilities require off-site easements, or approvals from other jurisdictional agencies, this information must be duplicated on the grading plan.

VI. Grading Plan Layout

All sheets of the grading plan should be consistent and laid out as follows:

A. Size and Scale of the Grading Plans.

1. Tract Grading

If the grading is for a tract, the plan should be no greater in size than 2 feet by 3 feet. This makes it easier to handle the plan on a desk or table. The scale of the plan should be 1 inch equals 40 feet or a larger standard scale. If details are required that require close measurements then the scale should be larger.

2. Single Lot

Single lot grading plans require close detailed grading. Again, the sheet size should be not greater than 2 feet deep by 3 feet wide. The scale for average size single lots should be no larger than 1 inch equal 10 feet.

B. The Title Block

The title block should be located to the lower right hand corner along the bottom of the plan. The title block should contain the following information:

1. Project location or title.
2. Sheet number.
3. The design engineering firm.
4. The address.
5. Telephone number.
6. For whom the plans are prepared.
7. Other consultants.
8. A revision log showing date last revised and what was revised.

An additional space should be provided near the title block where the signature and seal of the design engineer with registration expiration date and if necessary the verification of the geotechnical consultant's recommendations along with the signature and seal.

C. General Notes

The general notes must be shown on the first sheet of the grading plans.

The general notes required on a grading plan are noted in the Grading Correction Sheet in Chapter 14. The notes related to drainage are in the Grading Plan Drainage Review Notes, also in Chapter 14.

D. The plans and specifications must contain the following items in the Grading Correction Sheet (See Pages 14-12 through 14-23, Chapter 14) and includes the following:

1. A vicinity sketch or other means of adequately indicating the site location.
2. Boundary lines of the property on which the work is to be performed.
3. Each lot or parcel of land into which the site is proposed to be divided.
4. All of the proposed uses of the site and, if the site is to be divided, the proposed use of each lot or parcel of land.
5. Location of any existing buildings or structures on the property where the work is to be performed, and the location of any buildings or structures on adjacent land which are within 15 feet of the property line.
6. Accurate contours showing the topography of the existing ground for the property in question and enough off-site to be able to adequately evaluate potential problems and proposed solutions.
7. Elevations, location, extent and slope of all proposed grading shown by contours, cross sections or other means and location of any rock disposal areas, buttress fills or other special features, if such are proposed to be included in the work.

8. A statement of the quantities of materials to be excavated and/or filled and the amount of such material to be imported to, or exported from the site.

9. A statement of the estimated starting and completion dates for work covered by the permit.

10. All easements such as for storm drains, sewers, water mains, fire access easements, private driveways, roads, etc. must be shown and referenced to other improvement plans.

11. All required improvements must be located on the grading plans such as border walls and fences retaining walls, drainage systems, paving for driveways for fire access and private streets required under the conditions of subdivision approval or County Codes. (See Item III, beginning on Page 30-2.)

12. The recommendations in the geotechnical engineering and engineering geology reports shall be incorporated in the grading plans. (See Chapter 49 of this Manual.)

13. Detailed plans of all drainage devices, walls, cribbing, paving or other protective devices to be constructed in connection with, or as a part of, the proposed work as required under the conditions of approval and County Codes and are not shown on other development plans submitted to the County for review. Sufficient details, specifications, and related design data to adequately construct the project must be shown on the plans. Supporting calculations must be provided as deemed necessary by the plan checker, to substantiate the adequacy of the devices. (See Item IV beginning on Page 30-8).

14. Any additional plans, drawings or calculations deemed necessary by the building official to show conformance of the proposed work with the requirements of this code or related ordinances.

15. Drainage details for all graded areas and especially for that portion of a lot or parcel to be utilized as a building site (building pad) including elevations of floors with respect to finish site grade and locations of proposed stoops, slabs and fences that may affect drainage.

16. Dashed-in or half tone details of existing utilities, roads, drainage devices, storm drains must be shown on the grading plan.

17. Dashed-in limits of proposed storm drain easements with reference to the storm drain P.D. number must be shown on the grading plan.

18. Limits of Flood Hazards and other restricted use areas must be shown on the grading plan.

Where a hydrology study is required by the plan checker, it must be completed in accordance with Chapter 34 and submitted prior to final approval of the grading plan.

E. Other Items

Other items may be required on the grading plans in order to clearly determine the grading and associated construction to be performed:

1. A north arrow to be shown with each plan view.

2. The scale of each view.

3. Cross sections of all major cut slopes. These cross sections must be drawn to an undistorted scale.

4. The locations of all cross sections must be shown on a plan view.

5. In the case of subdivisions, the lot numbers and parcel numbers along with the buildable area must be indicated.

6. If on-site drainage systems are required, the plans must contain the following:

   a. All on-site systems shall have plan and profile location of structures and type of structures.

   b. Details of all non-standard structures shall be shown.

   c. All construction notes shall be shown on the plans including reference to the latest "Standard Specifications for Public Works Construction".

   d. A note stating that "All concrete, gunite or shotcrete used for drainage devices must meet the requirements of the latest edition of the "Standard Specifications for Public Works Construction."

   e. A note requiring the engineer to submit certification that the work was constructed according to plans and specifications shall be shown on the plans or a note shall be included to arrange for inspection by County storm drain inspectors.

   f. If subdrains are utilized or are present on the site, the plans must have the following note: "All subdrain outlets must be located by a survey for location and elevation. They must be protected from burial and destruction and noted on the as-built plans." (See Chapter 39 of this Manual.)

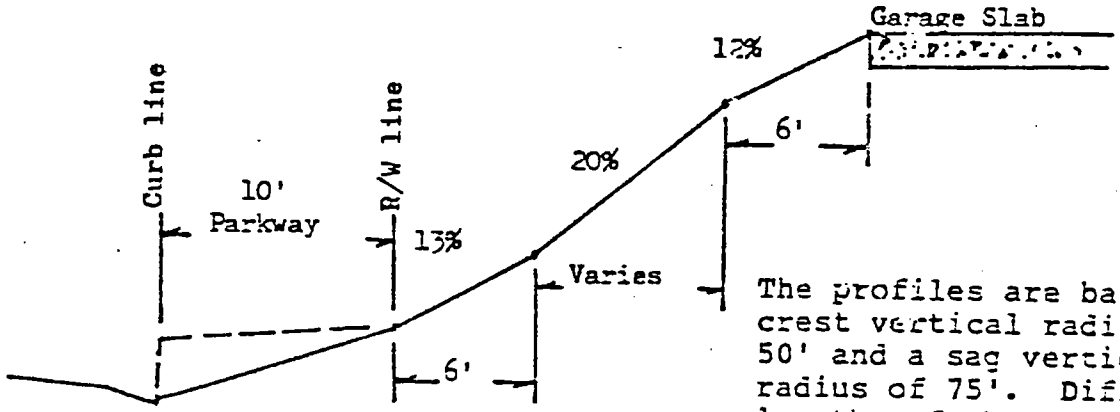
F. Reference to other Improvements

The grading plans must note building pad areas that are considered safe areas to build if there are restricted use areas on the site. The plans for all improvements that are to be constructed during grading operations must be referenced. There must be a note on the plans that no construction is permitted within easements or rights-of-way until construction plans within the easement are approved and construction permits issued. (See Item III.M. on Page 30-8.) Before issuance of a grading permit, the engineer's note must be on the approved plans as noted in Chapter 14 of this Manual.

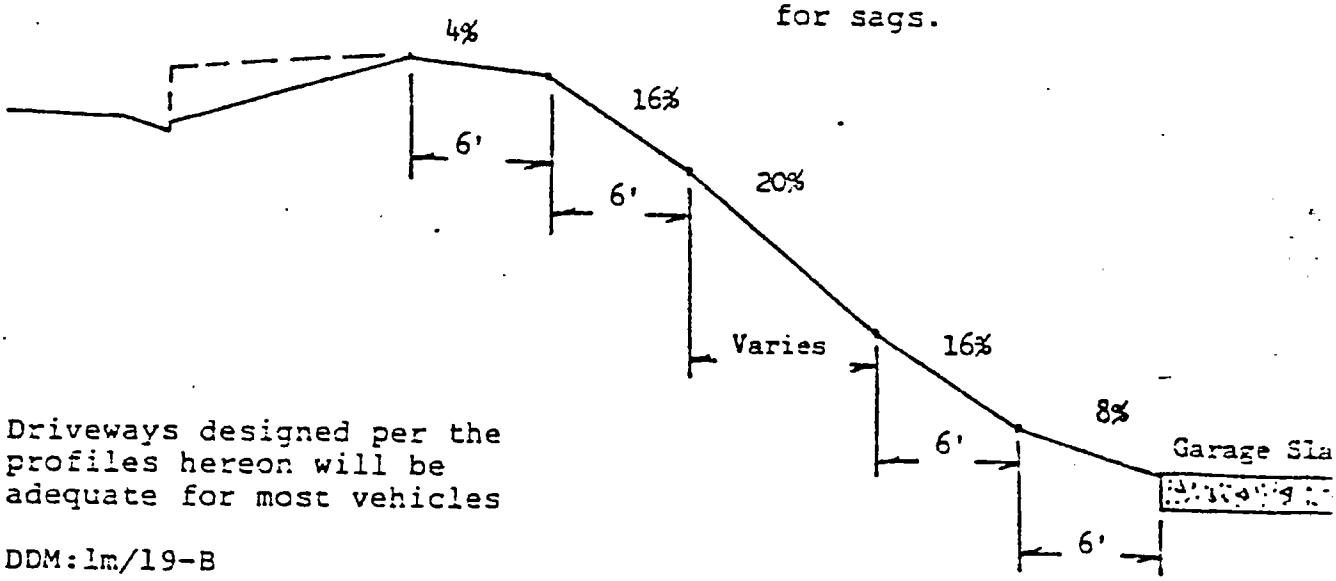
DESIGNING A DRIVEABLE DRIVEWAY

FOR 10' PARKWAYS

For an "ideal" driveway, the Institute of Traffic Engineers recommends breaks of 5% or less with chords of 10' or greater. However, this would require much longer ramps than most developers care to use. Based on vehicle characteristics, we can develop minimum standards of vertical curvature that are satisfactory for most loaded vehicles. Failure to consider the ramp early in the design process has led to expensive reconstruction in some cases. In other cases, occupants are suffering with driveways that cannot be used by an average loaded vehicle, let alone by one of the critical ones.



The profiles are based on crest vertical radius of 50' and a sag vertical radius of 75'. Different lengths of chords may be used as long as the ratio of chord length to grade break (L/A) is at least 50' for crests and at least 75' for sags.



Driveways designed per the profiles hereon will be adequate for most vehicles

DDM:lm/19-B

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY

BUILDING CODE MANUAL NO. 70.20

FILLS -- EXEMPTION FROM COMPACTION REQUIREMENTS

Section 7016(a) subsection 1 permits uncertified fills where these fills are not intended to support structures and where the Building Official determines that such certification is unnecessary as a safety measure. In making this determination, an investigation by a soils engineer may be required in order to establish the characteristics of the soil, the amount of settlement to be expected, and the susceptibility of the soil to erosion or slippage. The following guidelines are to be used:

Tract Grading

Fills are to be certified compacted fills throughout all residential lots as the location of future structures, such as room additions, retaining walls, swimming pools, and patios, are unknown.

Fill resulting from unbalanced grading operations may be uncertified if the fill is placed in an approved disposal site within the tract designated as a restricted use area. Fills so placed are to be planted with groundcover to minimize erosion. (Offsite disposal will require a separate plan and permit and will be subject to all applicable requirements.) Slopes shall not exceed two to one and shall be planted per Section 7019. Irrigation requirements for disposal sites will be determined on an individual basis by the Drainage and Grading Section.

Single Lot Grading -- Residential

Fills need not be compacted and a soils report will generally not be required when grading single lots for residential use provided:

1. No part of any foundation or retaining wall is shown to be placed on or through the uncertified fill. In addition, any building foundation must be set back from the fill day light line a minimum of 5 feet.

   Exceptions:

   (a) Grading plans which show foundations located within 5 feet of fill day light line or extending into the uncertified fill to a point where the foundation depth must be extended 2 feet or less to bear in undisturbed soil may be approved with uncompacted fill subject to the conditions below and provided the following note is prominently shown on the plans: "The footing excavations for any proposed structures must be inspected in the field by a soil engineer and certified as extending 12 inches minimum into competent natural material."

This requirement may be waived if the building inspector is satisfied that he can determine that the footings extend into competent material.

(b) Grading plans which show foundations located in uncertified fill at a point where the fill exceeds a depth of 2 feet will not be approved unless a soils report is submitted. The report should discuss the potential for differential settlement in the building pad area, and recommend any necessary remedial measures. The soil engineer must inspect and approve the footing excavations.

(c) A soils report will be required whenever so recommended by the Soils and Geology section as part of their review.

2. Fill slopes meet the following requirements:

   (a) The slope is not steeper than two to one.
   (b) The slope does not exceed a height of fifteen feet.
   (c) The toe of the slope is set back from the property line at a distance equal to the height of the slope.
   (d) The toe of the slope is setback from the flood line of any adjacent drainage course a distance equal to the height of the slope.

3. Drainage swales in uncertified fills are graded at a minimum of two percent.

4. All uncertified fill is clearly delineated on the grading plan.

5. The following note appears prominently on the grading plan: "Fill is uncompacted and unsuitable for the support of structures."

6. All other applicable provisions of the Building Code are followed.

Other Uses

Fills for access roads, driveways, corrals, parking lots, and other uses not involving the support of structures need not be certified if it is not necessary as a safety measure. Numbers 2, 3, 4, 5 and 6 above shall apply. Planting and irrigation requirements follow the guidelines for disposal sites in tracts.

Soils (Geotechnical) Report

A soils (geotechnical) report will always be required for tract or parcel map grading.

Exception: The Building Official may waive this requirement if it is demonstrated to his satisfaction that such a report is not necessary to ensure the safety and satisfactory performance of the proposed grading.

A soils report will not usually be required for single lot residential grading meeting the above requirements unless deemed necessary due to known or suspected subsurface conditions which might adversely impact on the grading or proposed structures. The grading planchecker must have his decision to request a soils report for single lot grading verified by the District Office Manager prior to so notifying the applicant.

A soils report will be required whenever recommended by the Soils and Geology Section as a part of their review.

APPROVED

DONALD L. WOLFE
Assistant Deputy Director

DLW:dg

B-O/DISKF3/BCM70.20

Supercedes BCM 70.20 dated 06-26-89

STANDARD SPECIFICATIONS FOR HILLSIDE PLANTING

GENERAL STATEMENT

The intent of these specifications is to assist in compliance with the requirements of Section 7013 of the Los Angeles County Building Code applying to the planting of graded slopes.

A. Hillside Seeding:

1. Seeding rate

a. Annual grass and legume mixture-

Annual Ryegrass		16 lbs./acre
Vetch		15 lbs./acre
Rose Clover		4 lbs./acre
	TOTAL	35 lbs./acre

b. Perennial grass and legume mixture-

Alto or Meadow Fescue		10 lbs./acre
Kentucky Bluegrass		5 lbs./acre
Birdsfoot Trefoil*		4 lbs./acre
	TOTAL	19 lbs./acre

c. Various grasses and legume mixtures-

Blande Brome		8 lbs./acre
Tall Wheatgrass		8 lbs./acre
Harding Grass		2 lbs./acre
Rose Clover or Subterranean Clover**		4 lbs./acre
	TOTAL	22 lbs./acre

d. Alyssum and legume mixture-

Birdsfoot Trefoil*		25 lbs./acre
Alyssum		5 lbs./acre
	TOTAL	30 lbs./acre

*Requires warm weather to germinate
**Withstands drought

e. Other seeds as recommended by a registered landscape architect, subject to the approval of the Department. Color may be provided by utilizing flower seeds with recommended mixes.

2. Fertilizer applied at the rate of 32 pounds nitrogen and 40 pounds of phosphorus per acre. Drill or cultivate fertilizer into soil.
3. Apply seed by drilling or raking seed into soil using an organic material or soil mulch of ¼" thickness. On large scale projects it is recommended that mulch, seed and fertilizer be applied by hydro-mulching organic material in a water slurry that is applied by spraying on slope.
4. Irrigate seeded area immediately after planting at low rate of water application and maintain seeded slope in a moist condition.

B. GROUND COVERS:

1. Recommended varieties (See page 8.)
2. Planting:
   a. Rooted cuttings to be planted in ground that has been moistened and plant pits to be 6" x 6".
   b. Container grown plants to be planted in plant pits three (3) times wider than plant pit and depth double the height of plant ball. Backfill plant pit with 1/3 organic material mixed with soil from the site and amendments as needed to insure healthy growth. Plant crown to be at its natural growing height after settlement.
   c. Mulch planting area with organic material to aid in providing cool moist surface for plants. Rate of application to depend on the steepness of slope.
   d. Fertilize as necessary to assure healthy growth.
   e. Irrigate immediately after planting and as required using low rate of water application to insure healthy growth of plant without excessive water runoff from slope.

C. SHRUBS AND TREES:

1. Varieties (See Page 8.)
2. Planting (refer to paragraph on container grown plants for ground covers. Paragraph B–2(b).
   a. Trees to be staked utilizing at least one (1) redwood stake 2" x 2" x 8' driven into soil adjacent to plant ball at least 6" in solid ground. Tie tree to stake with a material that will not damage tree trunk.
3. Mulch plant with at least 1" of organic material.
4. Fertilize as necessary to assure healthy growth after plant begins new growth.
5. Irrigate immediately after planting, soaking the soil around the plant ball so that there will be no air pockets.

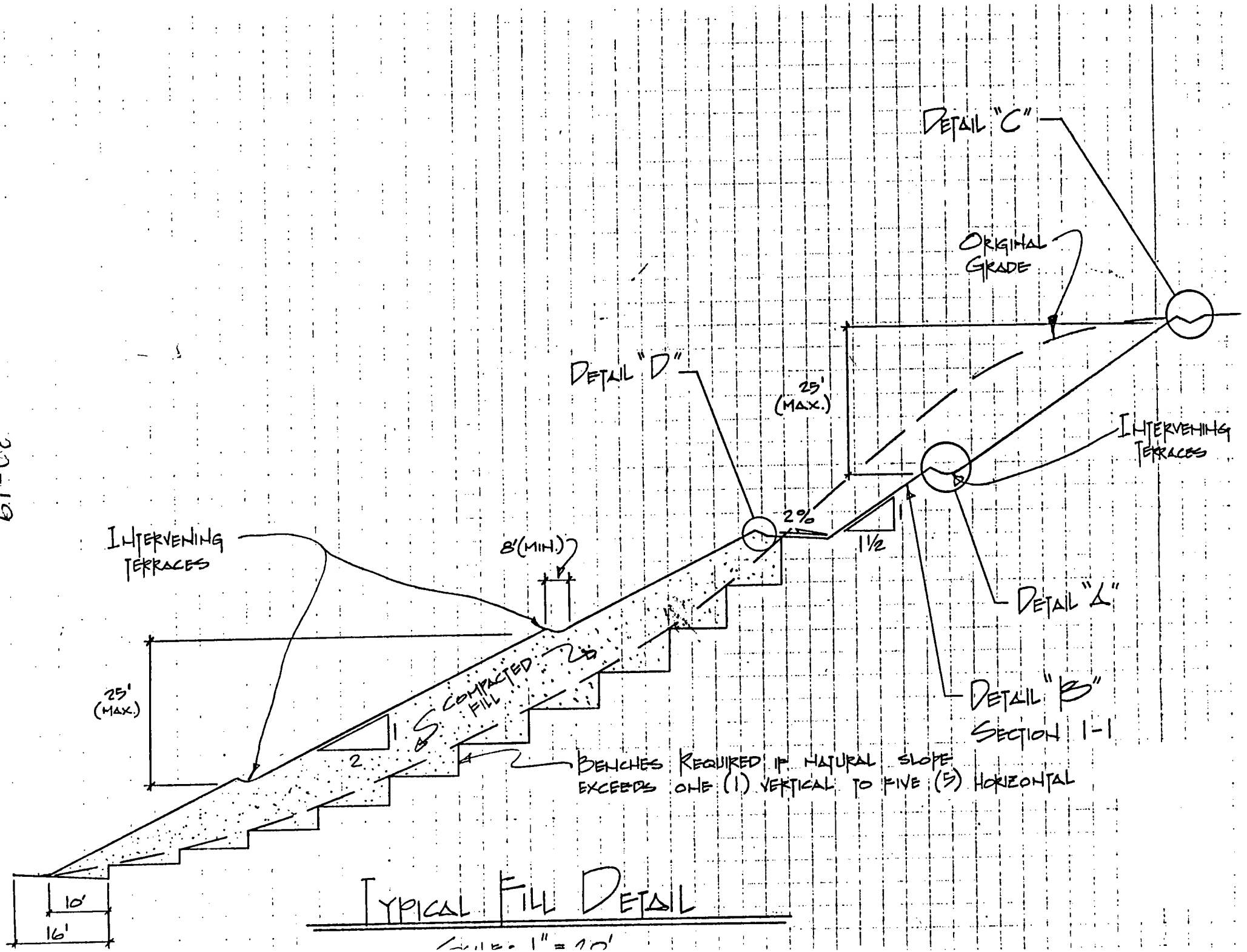
This table indicates the suggested planting for SLOPE EROSION CONTROL. Other suitable plants, as recommended by a landscape architect, may be approved.

BOTANICAL NAME	COMMON NAME	Soil Type			Climatic Condition					Spacing	
		Sand, Loam or Granite	Clays	Shales	Sea Shore	Coastal Humid Belt	Inland Frost Free	Inland Frost Belt	Fire Retardant	Rooted Cuttings	Gallon Size
Ground Cover											
Achillea Tomentosa	Wooly Yarrow	X	X		X	X	X	X	X	12"	
Bougainvillea Spectabilis	Brazil bougainvillea	X	X		X	X	X				5'
Gazania Uniflora leucoleana	Trailing gazania	X	X		X	X	X			24"	
Hedera varieties	Ivy	X	X	X	X	X	X			18"	3'
Hypericum calycinum	Aarons beard	X	X	X	X	X	X	X		18"	
Lantana varieties	Lantana	X	X	X	X	X	X			2'	4'
Lippia canescens repens	Creeping Lippia	X	X		X	X	X			15"	
Lonicera species	Honeysuckle	X	X	X	X	X	X	X		24"	4'
Mesembryanthemim small leaf varieties	Iceplant	X	X		X	X	X			*	
Osteospermum fruticosus	Trailing African Daisy	X	X	X	X	X	X			12"	
Plumbago capensis	Cape plumbago (Leadwort)	X	X	X	X	X	X				4'
Rosmarinus prostrate type	Creeping Rosemary	X	X	X	X	X	X	X	X	2'	4'
Vinca varieties	Periwinkle	X	X	X	X	X	X	X	X	24"	
Shrubs											
Acacia longifolia	Sallow wattle	X	X			X	X				
Acacia verticillata	Star acacia	X	X		X	X	X				
Althea syriacus	Rose of Sharon	X	X	X		X	X	X			
Atriplex canescens	Four winged salt bush	X	X		X	X	X		X		
Atriplex Lentiformis	Salt bush	X			X			X	X		
Baccharis pilularis	Dwarf coyote bush	X			X	X	X		X		
Callistemon species	Bottle brush	X	X	X	X	X	X				
Ceanothus gloriosus	Point reyes ceanothus	X			X	X	X	X			
Ceanothus griseus horizontalis	Carmel creeper	X	X		X	X	X				
Cistus species	Rockrose	X	X		X	X	X	X	X		
Echium fastuosum	Pride of Madiera	X	X	X	X	X	X	X			
Eleagnus pungens	Silverberry	X			X	X	X	X			
Eriogonum fasciculatum	Flat top eriogonum	X			X	X	X	X			
Grevillea banksi	Crimson coneflower	X	X			X	X				
Juniperus sab. Tamariseifolia	Savin juniper	X	X		X	X	X				
Myoporum species	Myoporum	X	X	X	X	X	X		X		
Nerium oleander	Oleander	X	X	X	X	X	X				
Photinia arbutifolia	Toyon or Christmasberry	X	X	X		X	X				
Rhus Laurina	Laurel sumac	X	X	X	X	X	X				
Santolima virens	Green lavendercotton	X	X	X	X	X	X	X	X		
Spartium junceum	Yellow Spanish broom	X	X	X	X	X	X	X	X		
Trees											
Albizzia julibrissin	Silk tree	X	X	X	X	X	X	X			
Calodendrum capense	Cape chestnut	X	X	X	X	X	X				
Erythrina species	Coral tree	X	X	X	X	X	X				
Eucalyptus grossa	Phillips' River Eucalyptus	X	X	X		X	X				
Gingo biloba	Maidenhair tree	X	X			X	X	X	X		
Gleditsia triacanthus	Honeylocust	X	X	X		X	X	X	X		
Liquidambar orientalis	Oriental sweet gum	X	X			X	X	X	X		
Parkinsonia aculeata	Jerusalem thorn	X	X	X	X	X	X	X			
Pinus species	Pine	X			X	X	X	X			
Prunus integrifolia	Catalina Cherry	X	X	X	X	X	X	X			
Schinus molle	California Pepper	X	X	X	X	X	X	X			
Schinus terebinthifolius	Brazilian Pepper	X	X	X	X	X	X	X	X		

*Unrooted cuttings 6" long 18" apart

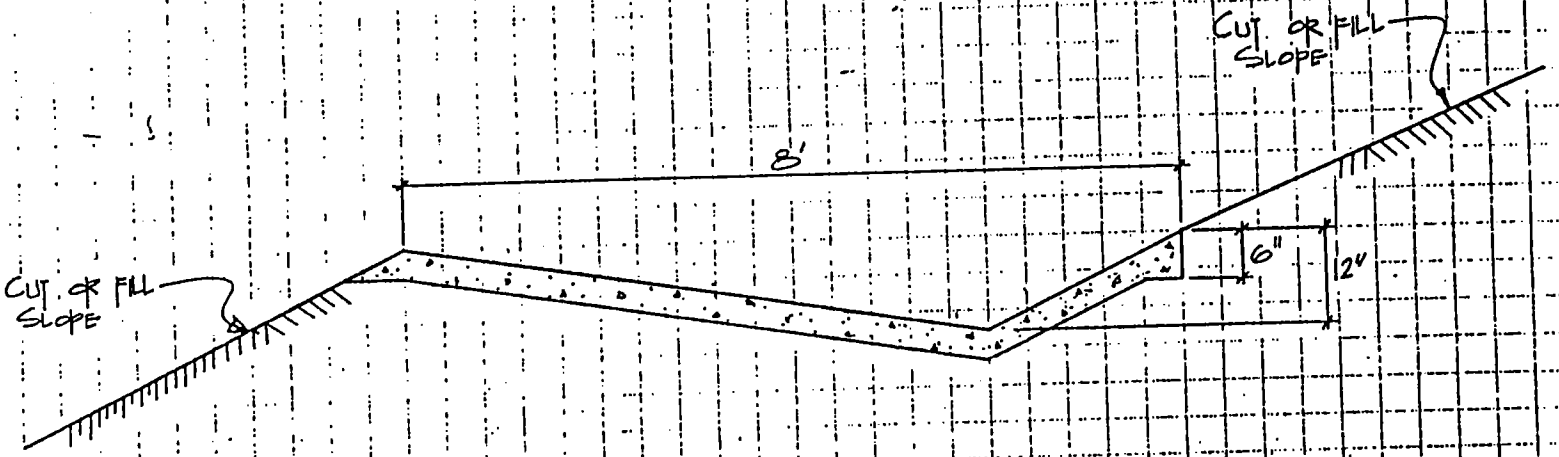
NOTE: All references contained in this Grading Guideline referring to Code, Chapter, or Section are to be found in the Los Angeles County Building Laws, 1975 Edition.

2-19



TYPICAL FILL DETAIL

SCALE: 1" = 10'



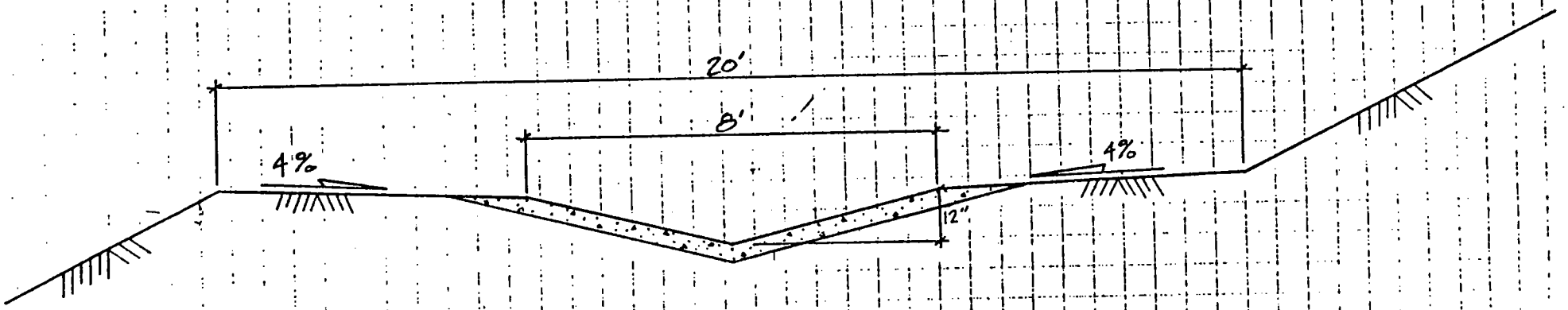
NOTE: THE LONGITUDINAL DRAINAGE SLOPE SHALL BE NOT LESS THAN 5% NOR MORE THAN 12%

DETAIL "A"

TYPICAL TERRACE DRAIN

SCALE: 1" = 2'-0"

3V-2V

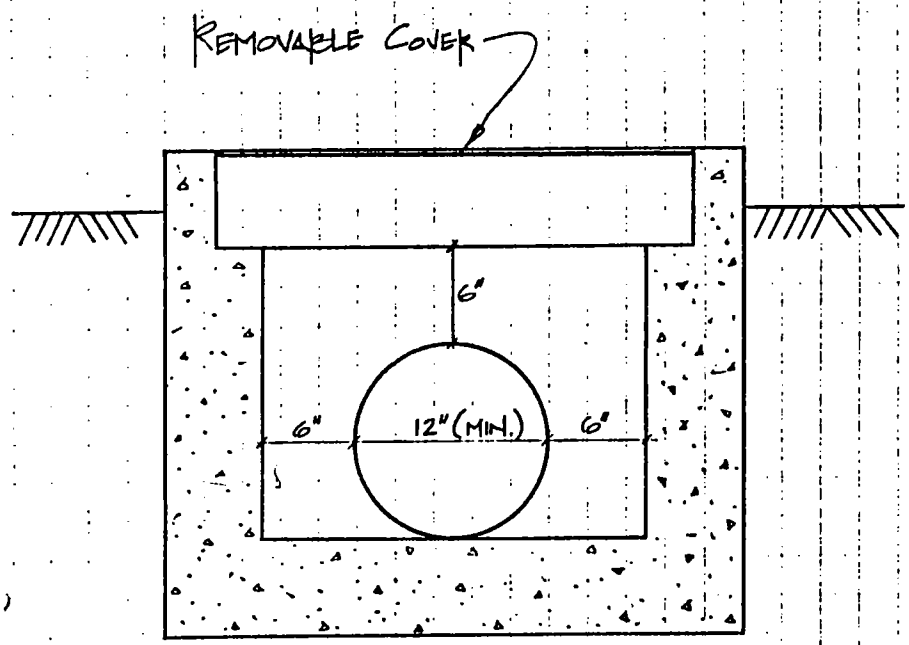


DETAIL A'

20' TERRACE DRAIN

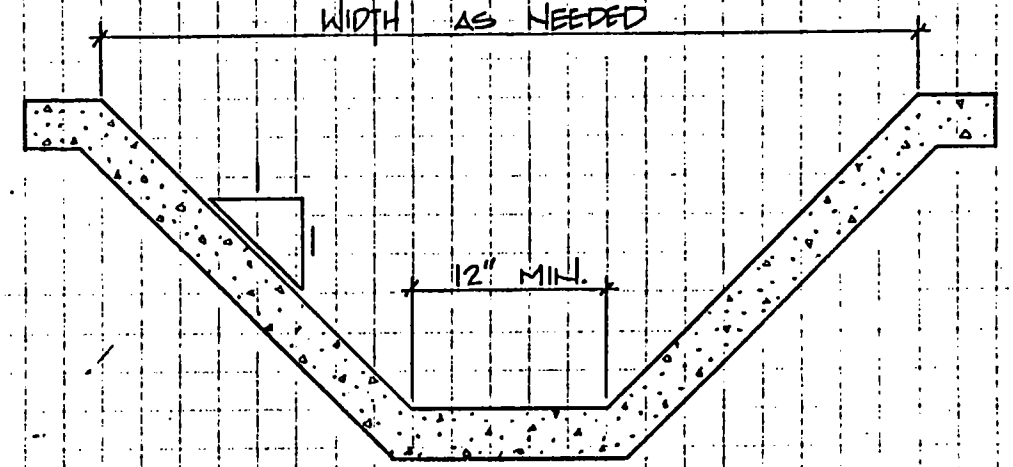
SCALE = 1" = 3'-0"

3-21



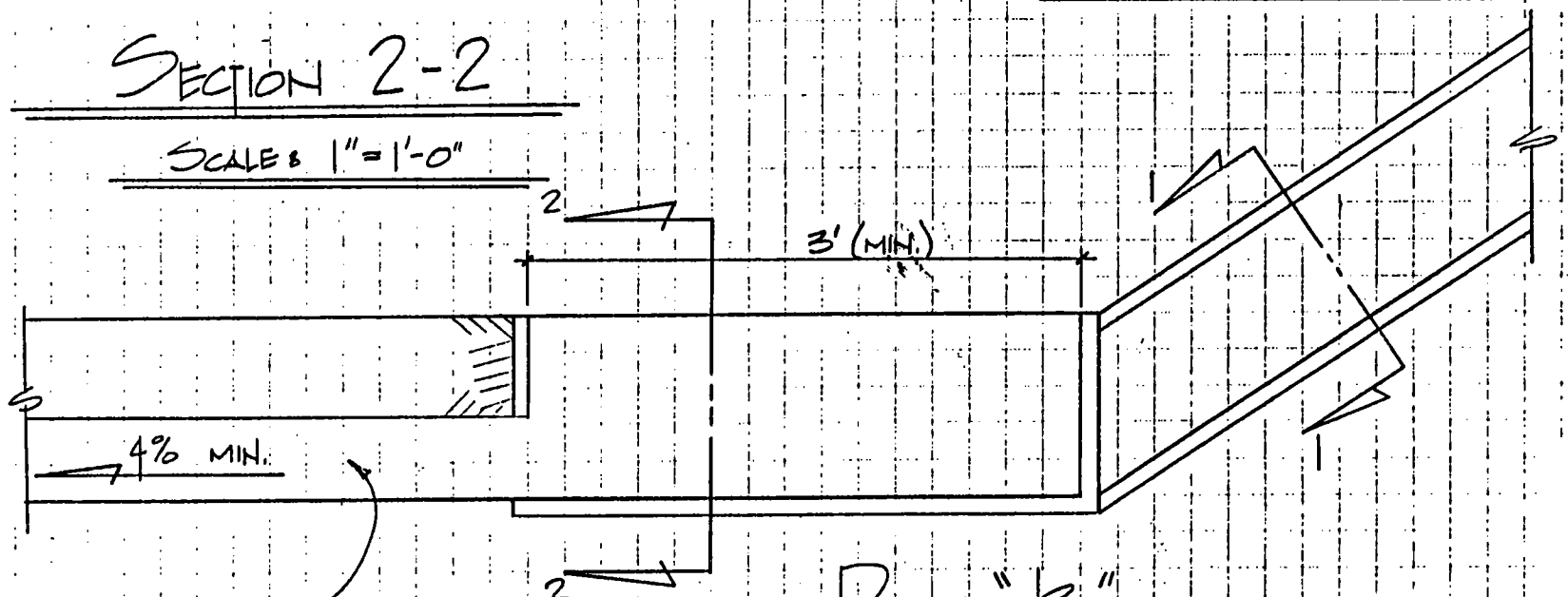
SECTION 2-2

SCALE: 1" = 1'-0"



SECTION 1-1

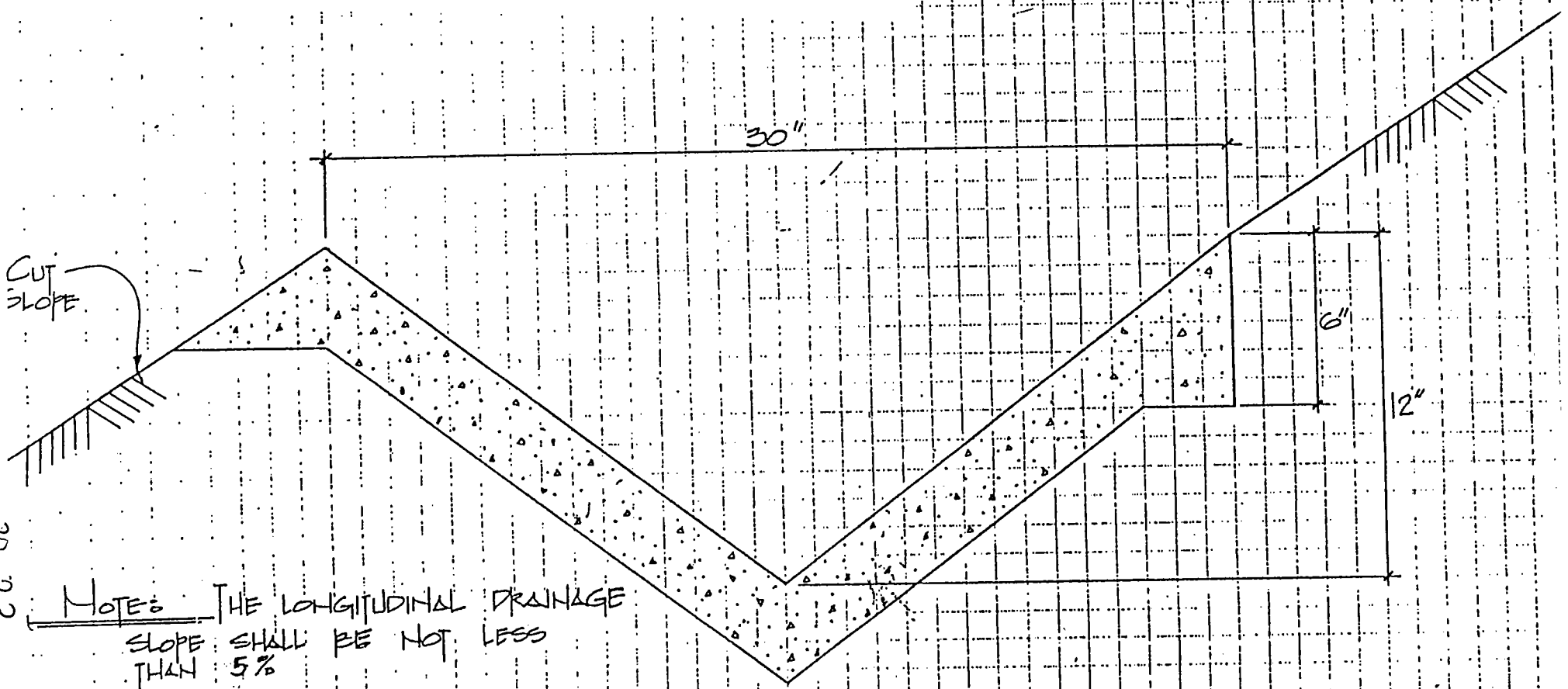
SCALE: 1" = 1'-0"



DETAIL "B"

TYPICAL DOWNDRAIN

3'-22



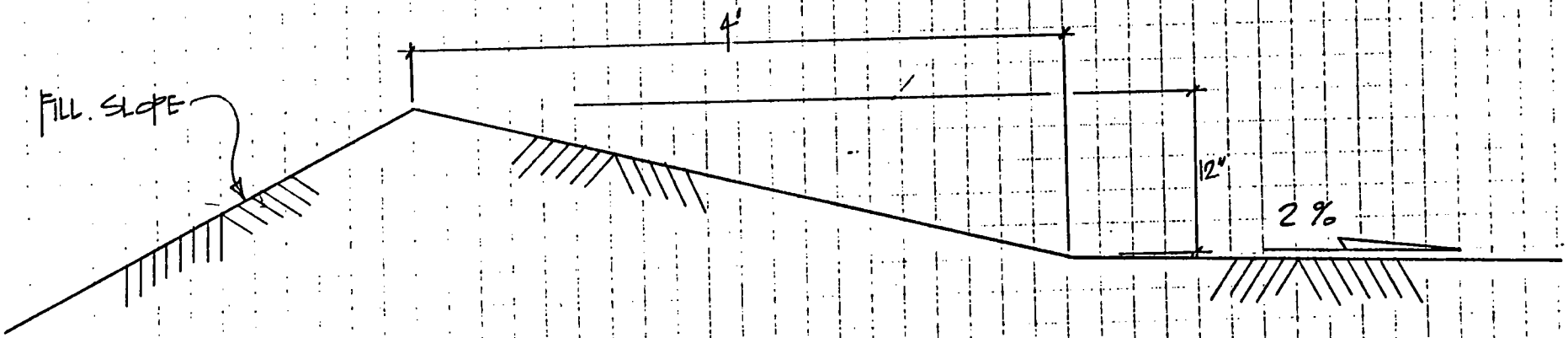
30-23

NOTE: THE LONGITUDINAL DRAINAGE SLOPE SHALL BE NOT LESS THAN 5%

DETAIL "C"

TYPICAL PAVED SWALE

SCALE: 1" = 5"

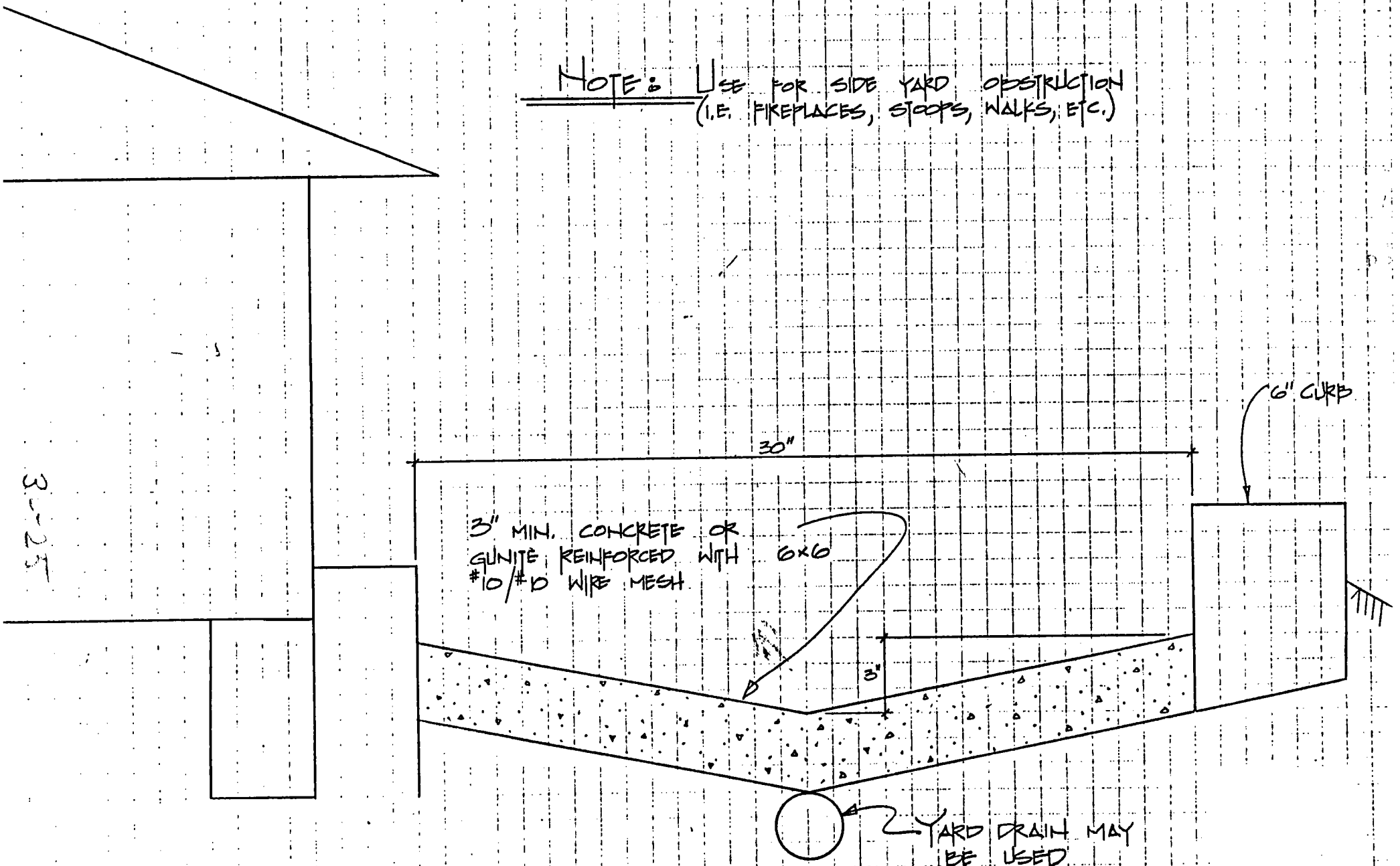


DETAIL "D"

TYPICAL BERM AT TOP OF ALL FILL SLOPES

SCALE: 1" = 1'-0"

NOTE: USE FOR SIDE YARD OBSTRUCTION (I.E. FIREPLACES, STOOPS, WALKS, ETC.)

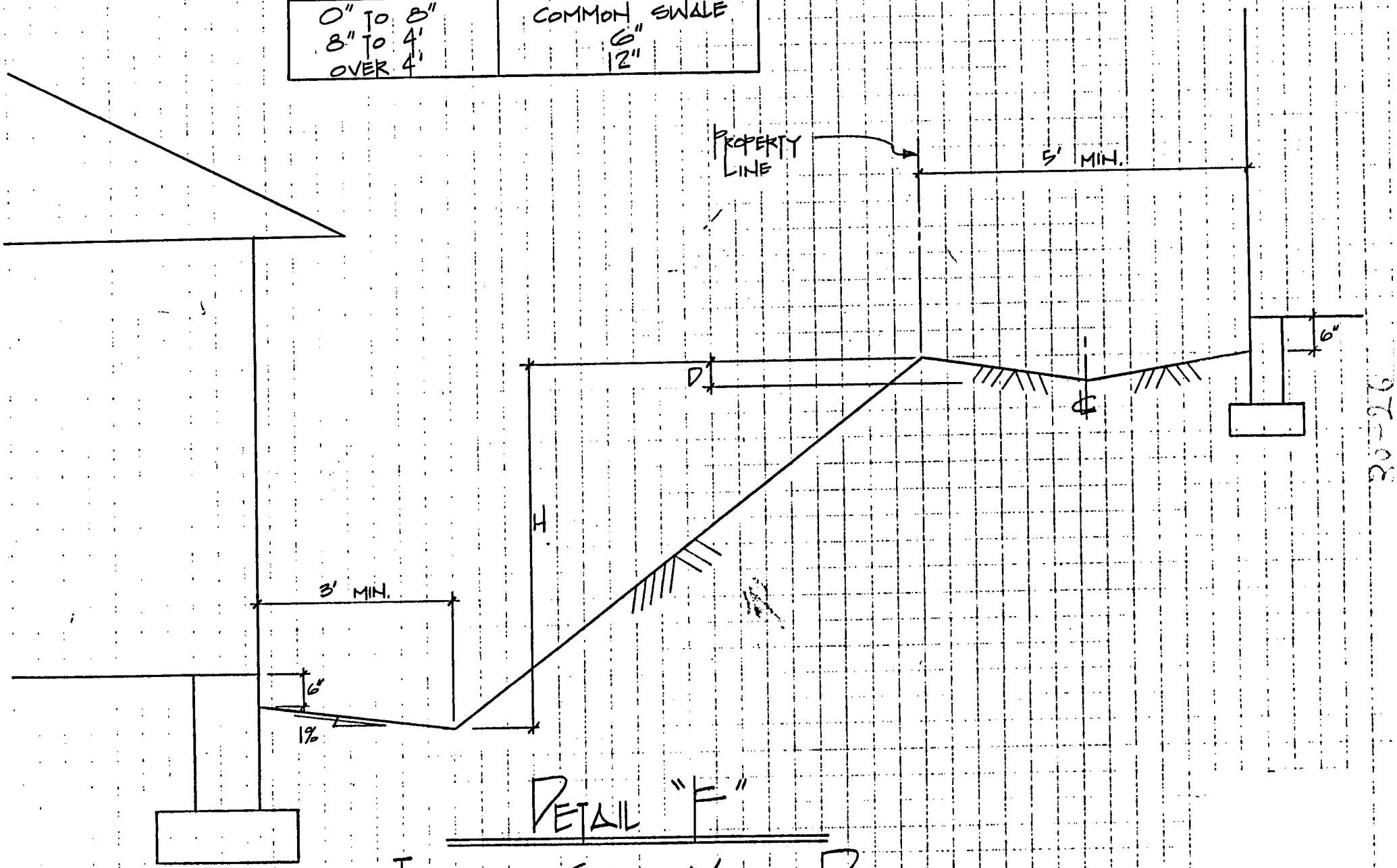


3-23

DETAIL "E"

SCALE: 1" = 5"

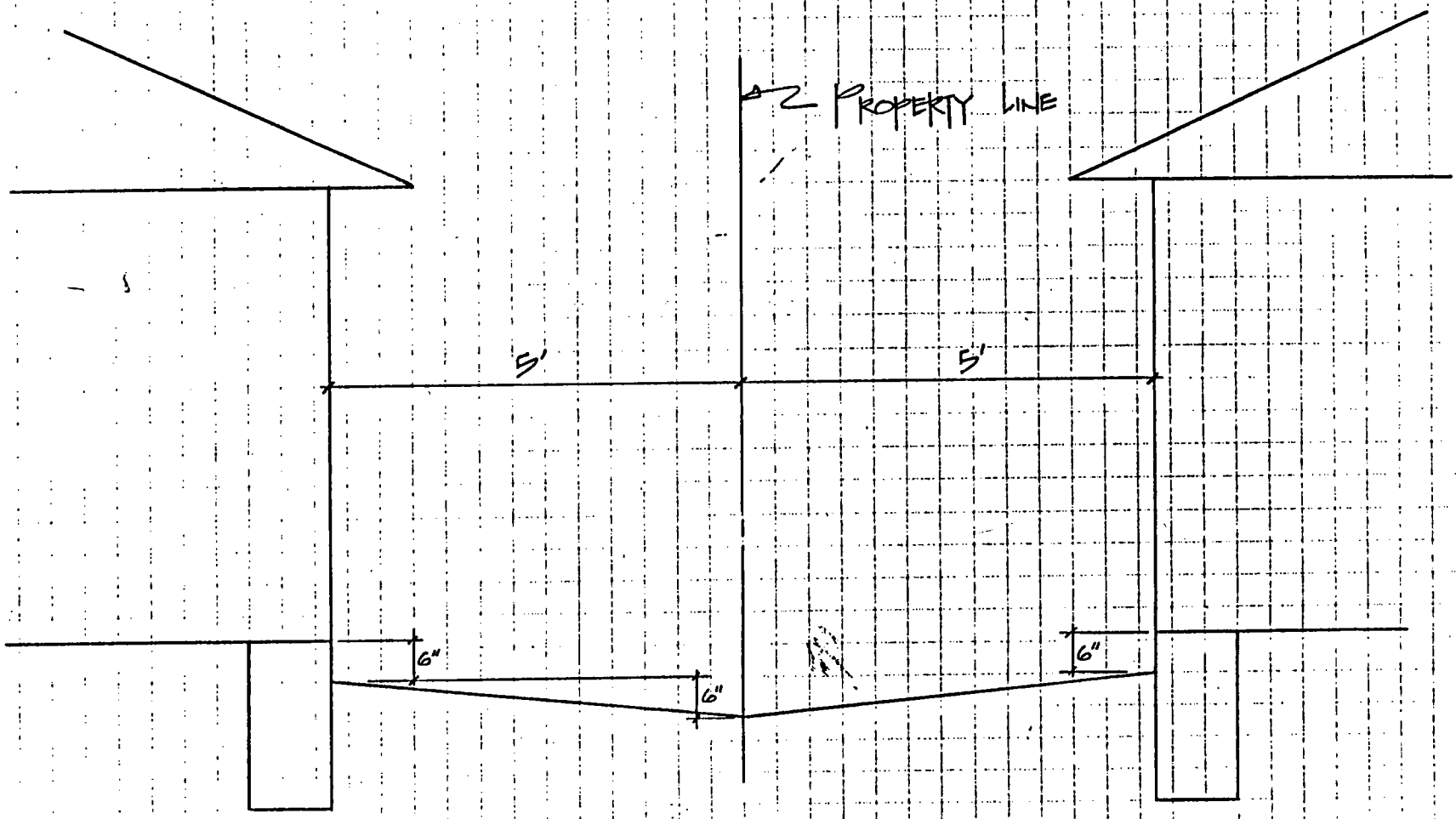
H	D
0" TO 8"	COMMON SWALE
8" TO 4'	6"
OVER 4'	12"



DETAIL "F"

TYPICAL SIDE YARD DRAINAGE

SCALE: 1" = 2'-0"

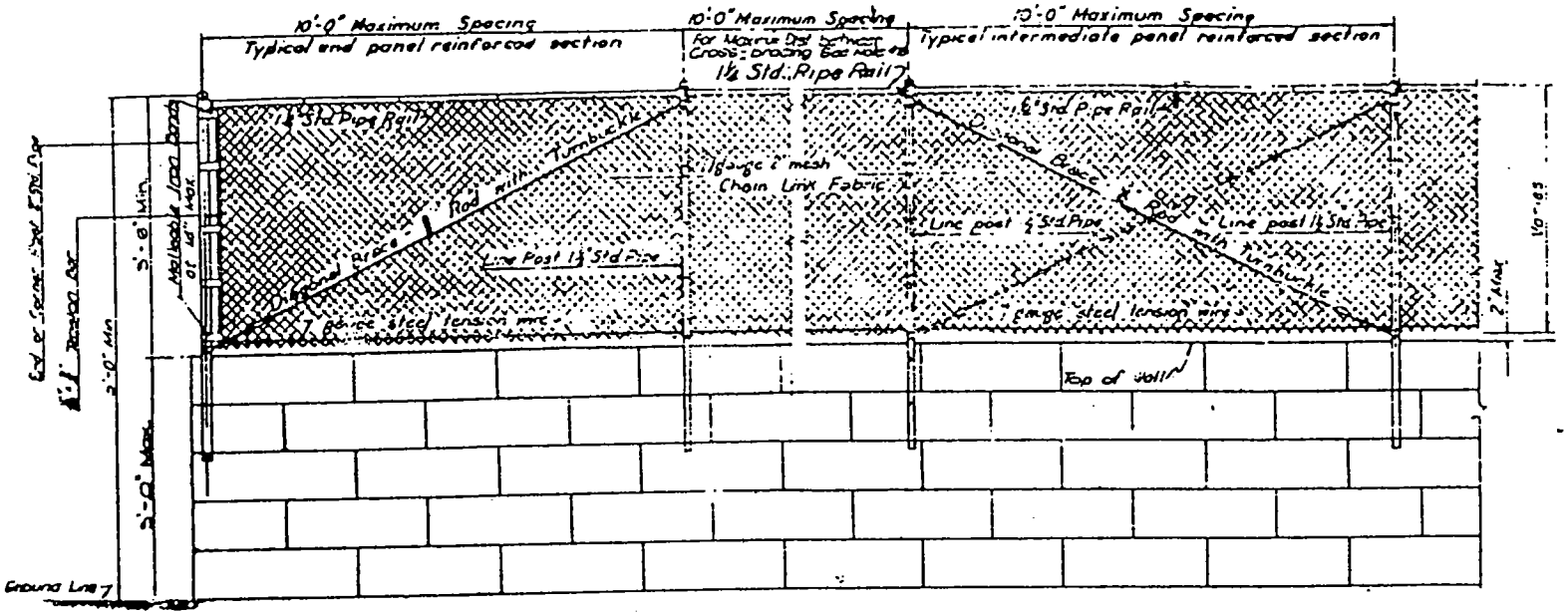


DETAIL "G"

COMMON SWALE

SCALE: 1" = 2'-0"

REINFORCED CONCRETE BLOCK WALL AND CHAIN LINK FENCE COMBINATION

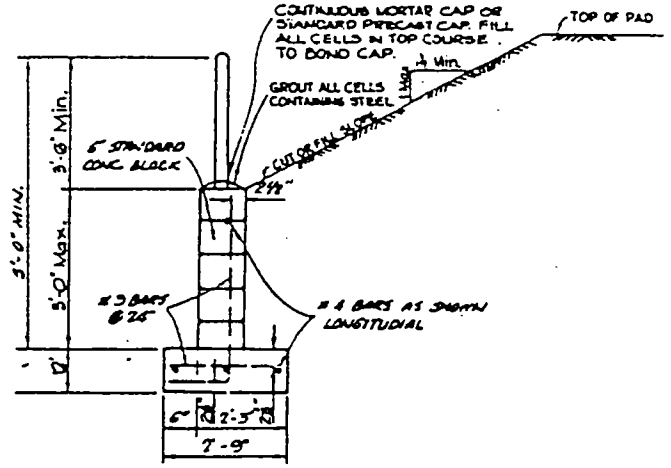


TYPICAL ELEVATION

DEPARTMENT OF COUNTY ENGINEER-COUNTY OF LOS ANGELES DESIGN DIVISION APPROVED	COUNTY ENGINEER STANDARD D-63
DIVISION ENGINEER — COUNTY ENGINEER	DATE 12-22-67 REVISED TO:

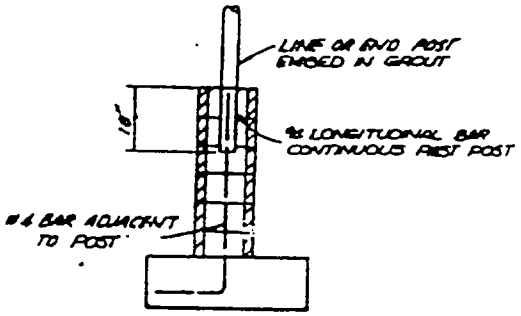
36-28

REINFORCED CONCRETE BLOCK WALL AND CHAIN LINK FENCE COMBINATION



TYPICAL WALL SECTION

NO SCALE



WALL SECTION AT POST

NO SCALE

DEPARTMENT OF COUNTY ENGINEER-COUNTY OF LOS ANGELES DESIGN DIVISION APPROVED	COUNTY ENGINEER STANDARD D-63
DIVISION ENGINEER COUNTY ENGINEER	DATE 12-22-67 REVISED TO:

REINFORCED CONCRETE BLOCK WALL AND CHAIN LINK FENCE COMBINATION

NOTES:

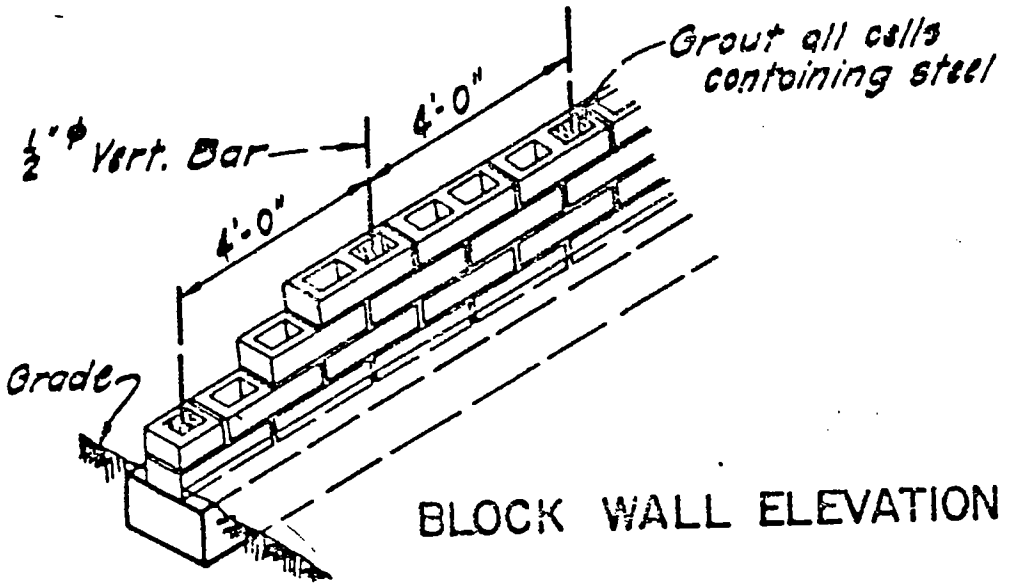
1. Use standard 6 inch wide concrete block per A.S.T.M. C-90.
2. Use concrete bond beam block where horizontal steel is called for.
3. Concrete shall be 1:3½:3½ machine mix with maximum of 7½ gallons water per sack of cement.
4. Reinforcing steel shall be intermediate grade per A.S.T.M. A-15.
5. Reinforcing steel bars shall be continuous and laps shall be 30 bar diameters.
6. All blocks shall be laid up in mortar head and bed joints full for thickness of face shells. Webs of each course shall center on webs of courses below. Omit head joint in grade course.
7. All cells in which steel is placed shall be filled with grout. Grout shall be one part cement, 3 parts sand, 2 parts pea gravel.
8. Mortar shall be 1-part cement, ½ part lime, [illegible] parts sand.
9. Pour footing against undisturbed natural soil or soil that has been compacted to 90% optimum density per A.S.T.M. D557-58T.
10. Fasten the fence fabric to line posts, tension wires, and rails with 12 ga. steel wire protected by a galvanized or other non-corrosive plating. Aluminum fabric bands or 10 ga. aluminum wire may be substituted for steel fabric ties. Vertical ties shall be spaced not more than 14" on centers and horizontal ties not more than 24" on centers. Wire ties shall be secured by twisting the ends tightly together.
11. The minimum weight of Std. Pipe per lin. ft. before galvanizing shall be: 1.68 lbs. for 1" pipe, 2.27 lbs. for 1¼" pipe, 2.72 lbs. for 1½" pipe, 3.65 lbs. for 2" pipe, and 5.79 lbs. for 2½" pipe.
12. Wherever Std. Pipe is referred to, tubular fence post or railing material having the following minimum weights and dimensions may be substituted:

Size	Wt. per ft.	Min. Wall Thickness	O.D.
1"	1.43#	.113"	1.315"
1¼"	1.97#	.120"	1.660"
1½"	2.37#	.125"	1.900
2"	3.29#	.131"	2.375
2½"	4.99#	.173"	2.875

13. If steel tubing is substituted for Std. Pipe: It shall be electrically welded or seamless; the O.D. of the tubing shall not exceed that of Std. Pipe by more than 1/8"; and the weight of the galvanizing by the hot dip process shall be not less than 2 oz. per sq. ft. total coated surface.
14. Install galvanized caps on all posts and secure with ½" round head galvanized rivets.
15. A No. 7 gauge steel tension wire shall be installed at the bottom of the fence fabric continuous from end to end.
16. Any section of fence more than 300 feet in length shall be constructed with cross-braced panels spaced not over 300 feet apart.
17. The galvanizing of the fence fabric shall produce a zinc coating weighing not less than 1.2 oz. per sq. ft.
18. The contractor shall obtain a permit from the local Building and Safety office prior to construction. After the steel is in place and 24 hours prior to pouring concrete for the footing, the contractor shall call the local Building and Safety office for inspection. Prior grouting the wall cells, the contractor shall again call the local Building and Safety office for inspection. Final inspection shall be called for upon completion of the wall.

DEPARTMENT OF COUNTY ENGINEER-COUNTY OF LOS ANGELES DESIGN DIVISION APPROVED	COUNTY ENGINEER STANDARD D-63
DIVISION ENGINEER — COUNTY ENGINEER	DATE 10-28-69 REVISED TO:

REINFORCED CONCRETE BLOCK WALL

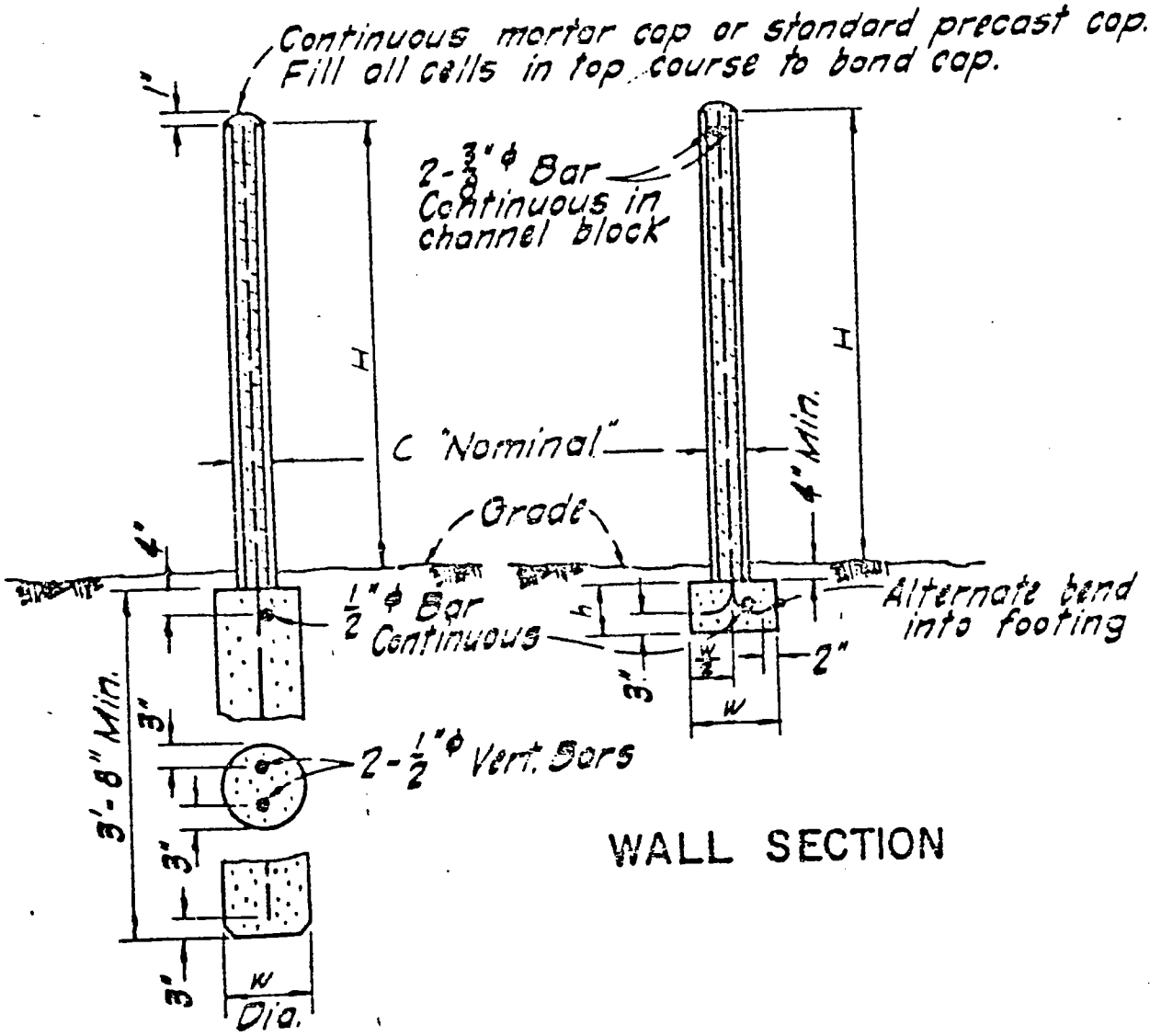


BLOCK WALL ELEVATION

DEPARTMENT OF COUNTY ENGINEER - COUNTY OF LOS ANGELES DESIGN DIVISION APPROVED DIVISION ENGINEER — COUNTY ENGINEER	COUNTY ENGINEER STANDARD D-65 DATE: 1-17-64 REVISED TO: 5-12-67

30-31

REINFORCED CONCRETE BLOCK WALL



DEPARTMENT OF COUNTY ENGINEER - COUNTY OF LOS ANGELES DESIGN DIVISION APPROVED C. N. Pierson DIVISION ENGINEER COUNTY ENGINEER	COUNTY ENGINEER STANDARD D-65 DATE: 1-17-64 REVISED TO 5-15-67

REINFORCED CONCRETE BLOCK WALL

NOTES:

1. USE CONCRETE CHANNEL BLOCK WHERE HORIZONTAL STEEL IS CALLED FOR.
2. CONCRETE SHALL BE 1:2½:3½ MACHINE MIX, WITH MAXIMUM OF 7½ GALLONS WATER PER SACK OF CEMENT.
3. REINFORCING STEEL SHALL BE STRUCTURAL GRADE f_s=20,000 P.S.I.
4. REINFORCING STEEL BARS SHALL LAP 40 BAR DIAMETERS.
5. ALL BLOCKS SHALL BE LAID UP IN MORTAR WITH FULL HEAD AND BED JOINTS. WEBS OF EACH COURSE SHALL CENTER ON WEBS OF COURSES BELOW.
6. ALL CELLS IN WHICH STEEL IS PLACED SHALL BE FILLED WITH GROUT.
7. MORTAR SHALL BE 1-PART CEMENT, 3½ PARTS SAND (¼ PART LIME, OPTIONAL).
8. POUR FOOTING AND PIERS AGAINST UNDISTURBED NATURAL SOIL OR SOIL THAT HAS BEEN COMPACTED TO 90% OPTIMUM DENSITY PER A.A.S.H.O. T99-49.
9. PIERS SHALL BE LOCATED AT MAXIMUM INTERVALS OF 18 FEET CENTER TO CENTER OR AS CALLED FOR ON PLAN.
10. THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE LOCAL BUILDING AND SAFETY OFFICE PRIOR TO CONSTRUCTION. AFTER THE STEEL IS IN PLACE AND 24 HOURS PRIOR TO POURING CONCRETE FOR THE FOOTING, THE CONTRACTOR SHALL CALL THE LOCAL BUILDING AND SAFETY OFFICE FOR INSPECTION; PRIOR TO GROUTING THE WALL CELLS, THE CONTRACTOR SHALL AGAIN CALL THE LOCAL BUILDING AND SAFETY OFFICE FOR INSFECTION. FINAL INSPECTION SHALL BE CALLED FOR UPON COMPLETION OF THE WALL.
11. UNLESS OTHERWISE SHOWN ON PLAN: H= 5'-0", C= 6", h= 8", w= 12".
12. NOTE 10 APPLIES TO PRIVATE CONTRACTS ONLY.

DEPARTMENT OF COUNTY ENGINEER - COUNTY OF LOS ANGELES DESIGN DIVISION APPROVED DIVISION ENGINEER — CHIEF ENGINEER	COUNTY ENGINEER STANDARD D-65 DATE: 1-17-64 REVISED TO 5-12-67

30-33

SEC. 2907.1 — FOUNDATIONS ON OR ADJACENT TO SLOPES

(a) Scope. The placement of buildings and structures on or adjacent to slopes steeper than 3 horizontal to 1 vertical shall be in accordance with this Section. The provisions are intended to provide protection to the building from water from natural sources, mudflow, loose slope debris, shallow slope failures and foundation movement.

(b) **Building Clearance from Ascending Slopes.** In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion, and shallow failures. Except as provided for in this section, the following criteria will be assumed to provide this protection. Buildings shall be set back from the toe of slopes a distance equal to one-half the vertical height of the slope above the top of the foundation with a minimum clearance of three feet and a maximum clearance of 15 feet. A detached one-story accessory building not used for living purposes which does not exceed 600 square feet in area may extend to within three feet of the toe of a slope. Where the existing slope is steeper than one horizontal to one vertical, the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees to the horizontal.

(c) **Footing Setback from Descending Slope Surface.** Footing on or adjacent to slope surfaces shall be founded in firm material with an embedment and setback from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. Except as provided for in this section, the following setback is deemed adequate to meet the criteria. Footings shall be placed into firm material and located a distance of one-third the vertical height of the slope with a minimum of 5 feet and a maximum of 40 feet measured horizontally from the slope surface to the lower edge of the footing. Where the slope is steeper than one vertical to one horizontal, the required setback shall be measured from an imaginary plane 45 degrees to the horizontal is projected upward from the toe of the slope.

(d) **Pools.** The setback between pools regulated by this Code and slopes shall be equal to ½ the building footing setback distance required by this section. That portion of the pool wall within a horizontal distance of 7 feet from the top of the slope shall be capable of supporting the water in the pool without soil support.

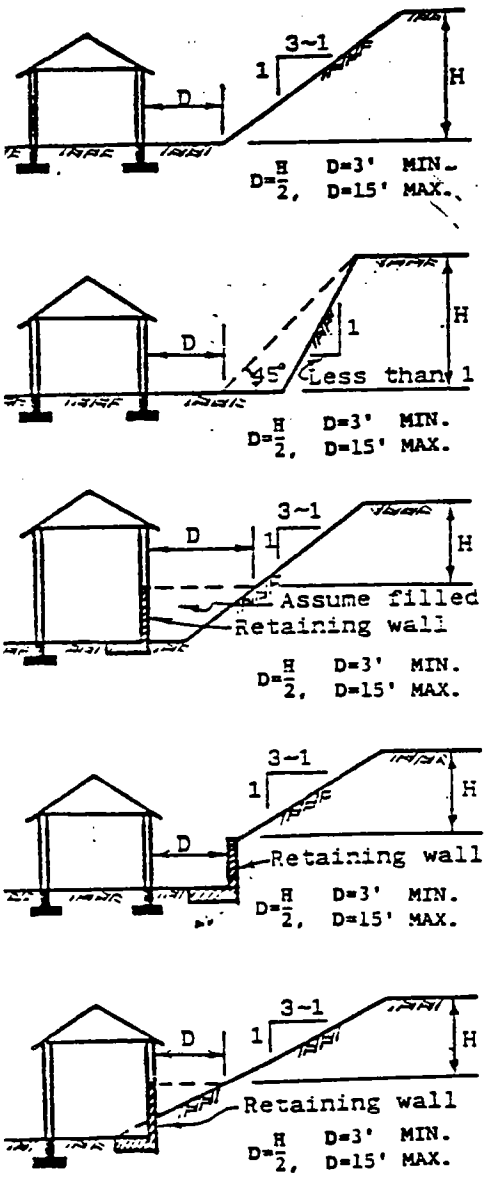
(e) **Foundation Elevation.** On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12 inches plus 2 percent of the distance from the foundation to the gutter or drainage device.

(f) **Alternate Setback and Clearance.** The Building Official may approve alternate setbacks and clearances when the intent of this Section is demonstrated by an investigation and recommendations of a soil engineer and/or an engineering geologist. Such an investigation shall include consideration of type of material, height of slope, slope-gradient, load intensity, and erosion characteristics of slope material.

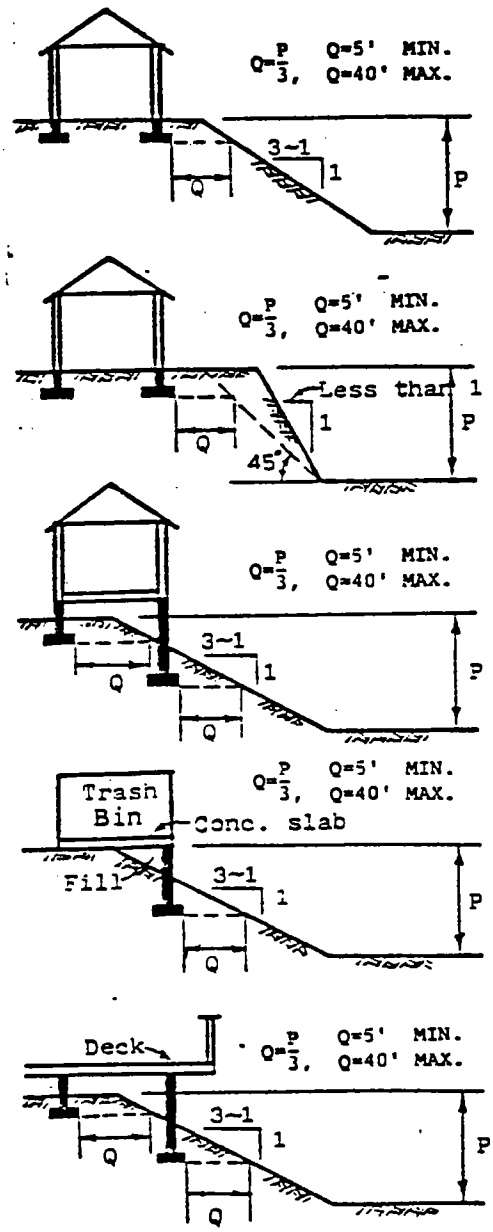
Where adverse geological, soil and drainage conditions exist, the Building Official may require increased setbacks and clearances.

(g) **Alternative Foundation Elevation.** The building official may approve alternate elevations providing it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

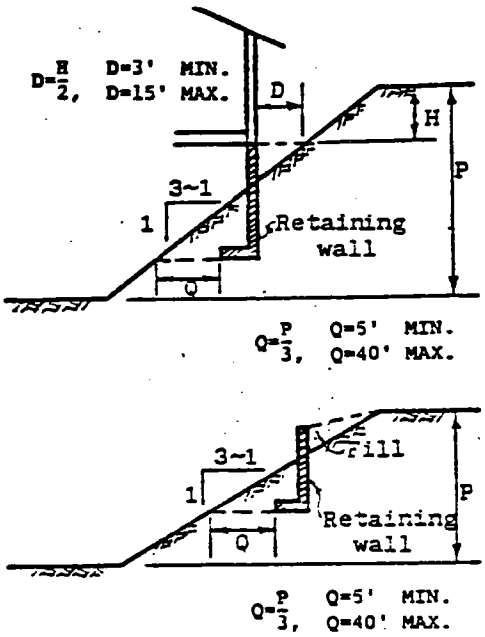
SEC. 2907.1 (b)



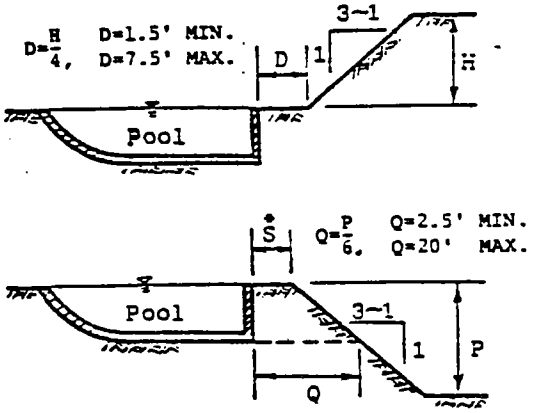
SEC. 2907.1 (c)



SEC. 2907.1 (b) & (c)



SEC. 2907.1 (d)



*If "S" is less than 7', the pool wall shall be capable of supporting the water in the pool without soil support.

COUNTY OF LOS ANGELES FIRE DEPARTMENT
FIRE CODE STANDARD NO. 10.207 (A)

SUBJECT: STANDARDS FOR PRIVATE ACCESS ROADS AND DRIVEWAYS FOR SINGLE-FAMILY DWELLINGS (no public right-of-way)

APPLICATION: BUILDING SITES NOT SERVED BY IMPROVED PUBLIC RIGHT-OF-WAYS

In order to develop or maintain an adequate level of fire protection for buildings constructed within the jurisdictional area of the County of Los Angeles Fire Department, access roads must be provided which will support Fire Department apparatus.

Roads which are public in nature and constructed to Road Department standards provide acceptable vehicular access. Private access roads including driveways, bridges, and culverts, may not be subject to standards which would insure access for Fire Department apparatus.

Therefore, the Fire Department has developed the following access standards which are consistent with Section 10.207 of the Fire Code (County Ordinance #2947).

Section 10.207 of the Fire Code states in part: (a) "Every building hereafter constructed shall be accessible to Fire Department apparatus by way of access roadways with all-weather driving surface capable of supporting the imposed loads of fire apparatus of not less than 20 feet of unobstructed width and with adequate roadway turning radius." For the purpose of clarification, "All Weather" as intended for Fire Code Standard 10.207 means providing a driving surface that is passable by emergency equipment under normal weather conditions for the area including normal rainfall.

In order to accomplish the above code requirements, the roadway shall include the following features.

1. Surface

   a. Private access roadways having a grade of 10% or greater shall have a paved surface. The paving will be consistent with the Los Angeles County Road Department's typical inverted shoulder street section as shown in Figure 1. Alternative structural sections will be acceptable when accompanied by appropriate engineering calculations. The roadway should be designed for a T.I. (Traffic Index) of 4 (10 year) or maximum axle loads as shown in Section B(2) of this standard. Please note Section No. 8 of this standard.

b. Private access roadways having a grade of less than 10% may use a surface other than pavement specified in 1 (a) if the proposed surface will support the weight and use of fire apparatus during inclement weather conditions. In making a determination as to the acceptability of the proposed road surface the following facts shall be considered:

(1) Fire apparatus has a gross weight of up to 50,000 pounds.

(2) Weight distribution is approximately 30% on the front axle and 70% on the rear axle(s). Axle weights will range from 9,000 lbs. to 16,000 lbs. on the front axle and 19,840 lbs. to 34,000 lbs. on the rear axle(s). The rear axle is of a dual tire configuration.

2. Width

The 20-foot minimum standard shall be adhered to with the following exceptions:

a. Where geological or other restricting forces preclude the development of a full 20 feet of driving surface along the entire length of the access road and the access road does not serve more than two single-family dwellings, modifications may be made. A minimum of 15 feet in width with suitable turnouts at no more than 1/4 mile intervals and turn arounds at not more than 1/2 mile intervals may be acceptable, when in the opinion of the Chief, fire fighting or rescue operations would not be impaired.

b. Where fire hydrants are required the access road width shall be increased to 26 feet for a minimum of 25 feet on each side of the hydrant location.

3. Length

All private access roads shall be extended to within 150 feet of all portions of the exterior walls of the first story of any building exclusive

of accessory buildings under 1,000 square feet. This measurement shall be taken along the path of access (Section 10.207 Fire Code).

4. Grades

On paved private access roads the maximum allowable grade shall not exceed 15% except where the topography makes it impracticable to keep within such grade and then an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade including topography difficulties shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet.

Exception: Grades may be increased where on-site fire protection systems approved by the Fire Chief are provided.

5. Curve Radius

Curve radii shall not be less than 32 feet. This measurement will be determined at the centerline of the road.

6. Drainage Control

Road drainage shall be evaluated by an engineering analysis of the site to determine that the proposed roadway is reasonably free of either sheet flow or concentrated channel flow to the extent that damage will not take place such as to impair its usability and capacity to support heavy fire fighting trucks and equipment. Any dip crossing, culvert, or bridge constructed shall be designed to accommodate the widths and grades listed above, be capable of supporting heavy fire department equipment, and be designed to withstand capital flood flows. Structures, other than dip crossings, across any major water course or within an established floodway shall be subject to the approval of the Flood Control District.

7. Public Right of Ways

a. Where the proposed access way lies within or crosses a dedicated or future dedicated public

right of way, the Los Angeles County Road Department must approve the improvements.

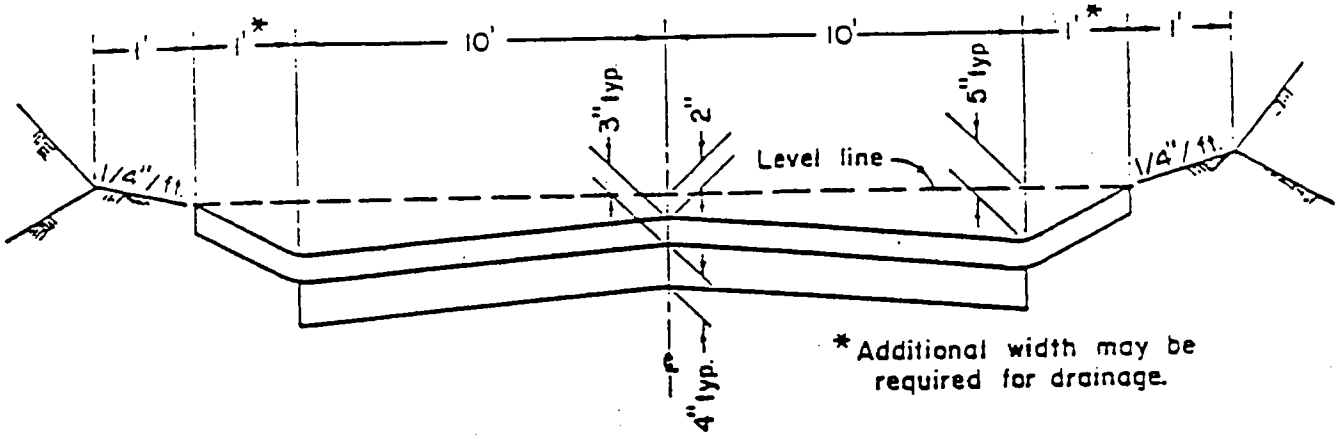
b. If in the future this access road is to become a public maintained street, the above standards should be upgraded to Los Angeles County Road Department standards.

8. The above requirements shall be certified to by a licensed civil engineer on the attached form. (2000-680)

9. Alternative to Access Standards

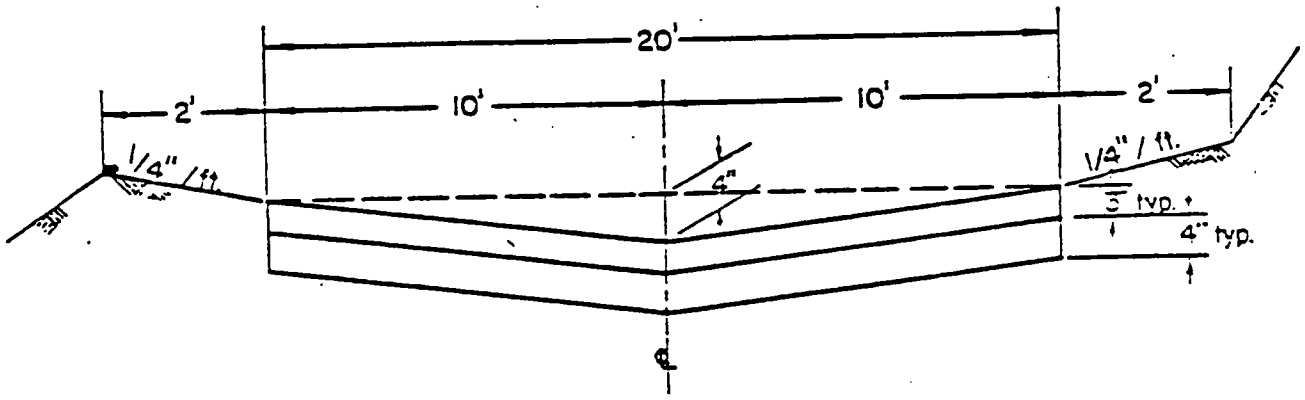
When the proposed building(s) conform to <u>all</u> of the following requirements, the density of housing does not exceed one-unit per acre, and in the opinion of the Fire Chief, firefighting or rescue operations would not be impaired, access requirements may be modified:

The proposed building must incorporate on-site fire protection facilities which will include a supply of water, fire resistant construction, interior automatic fire sprinkler system, and sufficient brush clearance. The sprinkler system shall be installed according to Inspection Guide No. 45.



Standard Section

Note: Erosion free overside drains shall be installed at frequent intervals to reduce depth of storm flow and nuisance water on the pavement.



Alternate Section

May be used on short access roads under 500' where storm flow is minimal.

The 3" Type II A.C. Pavement on 4" Crushed Aggregate Base may be replaced by:

6" Type II A.C. Pavement on Native Soil

or

6" Portland Cement Concrete Pavement on Native Soil

When completing the Access Certificate for a Building Permit (2000-680), the following information shall be submitted.

I. Access Certificate

A. Part I shall be completely filled out, signed and dated by the applicant.

B. Part II shall be completed, signed, dated and have the engineer's registry stamp affixed to the certificate when the existing access complies with Access Standard 13.208.

C. Part III shall be completed, signed, dated and have the engineer's registry stamp affixed to the certificate when the existing access requires improvements to provide compliance with Access Standard 13.208. Provide accompanying material as necessary to indicate required improvement.

II. Accompanying Information (All information shall be submitted in duplicate)

Two copies of drawings or plot plans which are scaled so that they accurately reflect the following information:

A. All the information which is submitted on the Access Certificate for a Building Permit (2000-680); Part I and Part II

B. Specific road composition as it exists relative to:

1. Surface
2. Width
3. Length
4. Grades
5. Curve Radii

C. Spetific road composition after necessary improvements are complete relative to:

1. Surface
2. Width
3. Length
4. Grades
5. Curve Radii

Note: Drawings shall be accompanied by written documents which justify, explain, or verify any and all existing conditions or the modification of the existing access road.

Fire Prevention Bureau
Fire Protection Engineerin
1320 North Eastern Avenue
Los Angeles, CA 90063
P.O. Box 3009, Terminal An
Los Angeles, CA 90051
213-267-2467

FS CERTIFICATE FOR BUILDING PERMIT
: AND TWO FAMILY DWELLINGS (R-3)
IVATE ALL-WEATHER ACCESS ROAD ONLY

RT I - INFORMATION SHEET

ILDING ADDRESS_____ CITY OR AREA_____

AREST CROSS STREET_____ DISTANCE TO NEAREST CROSS STREET_____

OPERTY OWNER_____ MAIL ADDRESS_____ TEL #_____

SCRIPTION OF BUILDING_____

ESENT ZONING_____

_____ _____
SIGNATURE OF APPLICANT DATE

* *

RT II - ACCESS STANDARDS CERTIFICATION: Complies with Section 10.207 of the Fire Code

hereby certify that the access road serving the above property will support fi
paratus and is consistent with the standards as set forth in County of Los Ang
Code Standard No. 10.207 .

me_____ Telephone_____ Stamp

dress_____

_____ _____
ignature of Engineer Date

* *

RT III - ACCESS IMPROVEMENTS REQUIRED: Improvements required to provide compliance with Section 10.207 of the Fi Code.

hereby certify that upon completion of the improvements indicated on the atta
ans, the access road serving the above property will comply with the standard
t forth in County of Los Angeles Fire Code Standard 10.207 .

me_____ Telephone_____ Stamp

dress_____

_____ _____
ignature of Engineer Date

is approval valid for six (6) months. Renewable upon resubmission of current
ta.

COUNTY OF LOS ANGELES FIRE DEPARTMENT
FIRE CODE STANDARD NO. 10.207 (B)

SUBJECT: STANDARDS FOR ACCESS TO ALL BUILDINGS OTHER THAN SINGLE-FAMILY DWELLINGS. STANDARD NO. 10.207(A) (PERTAINS TO SINGLE-FAMILY DWELLING CONSTRUCTION)

APPLICATION: BUILDINGS THAT REQUIRE ON-SITE FIRE DEPARTMENT APPARATUS ACCESS OTHER THAN PROVIDED BY IMPROVED PUBLIC RIGHT-OF-WAY

In order to develop or maintain an adequate level of fire protection for buildings constructed within the jurisdictional area of the County of Los Angeles Fire Department, access roads must be provided which will support Fire Department apparatus and provide access roadway to within 150 feet of all portions of the exterior walls of the first story of any building.

The Fire Department has developed the following access standards which are consistent with Section 10.207 of the Fire Code (Title 32, Los Angeles County Code). Section 10.207 of the Fire Code states in part:

(a) Every building hereafter constructed shall be accessible to Fire Department apparatus by way of access roadways with all-weather driving surface capable of supporting the imposed loads of fire apparatus of not less than 20 feet of unobstructed width, clear to the sky, and with adequate roadway turning radius.

(b) A paved fire apparatus access roadway shall be required when any portion of an exterior wall of the first story of any building is located more than 150 ft. from a public vehicle access.

(c) Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with a surface so as to provide all-weather driving capabilities.

(d) The required width of any fire apparatus access road shall not be obstructed in any manner, including parking of vehicles. Minimum required widths shall be maintained at all times.

(e) The Chief shall have the authority to require an increase in the minimum access widths where such width is not adequate for fire or rescue operations.

(f) When conditions prevent the installation of an approved fire apparatus access road, the chief may permit the installation of a fire-protection system or systems in lieu of a road, provided the system or systems are not otherwise required by this or any other code.

In order to accomplish the above code requirements, the access roadways shall include the following criteria.

I. Industrial and Commercial Developments

These occupancies require an access design which is adequate for the deployment of firefighting equipment. In order to accomplish this requirement the following design criteria shall be met.

A. All on site roadway/driveways serving these properties, shall provide a minimum unobstructed width of 26 feet clear to the sky to within 150 feet of all portions of the exterior walls of the first story of any building.

The minimum width of 26 feet shall be increased when any of the following conditions exist.

1. 28 Feet (Fire Department aerial apparatus is needed) When proposed buildings or portions of buildings are more than three stories or 35 feet in height above the ground level. The center line of the access roadway shall be located parallel to and within 30 feet of the exterior wall on at least one side of such building. (See attached Photo #3)

   NOTE: The public street may be used when the building wall is within 20 feet of the street and there are no obstructions such as power and telephone lines, trees, etc.

2. 34 Feet
   Parallel parking is allowed on one side of the access roadway/driveway. Preference is that the parallel parking not be adjacent to the building.

   If parallel parking is needed on both sides of the access roadway/driveway adjacent to a building, in order to insure the minimum clear width of 26 feet, the driveway shall be 42 feet in width.

   NOTE: Parking lots located away from buildings shall conform to the Department of Regional Planning or the local planning department's parking lot dimensions.

B. When on-site hydrants are required, roadway/driveway width at the hydrant location shall be a minimum of 26 feet. A linear distance of 25 feet clear is required on both sides of the hydrant. (See attached Photo #2)

C. Fire Department approved turnarounds shall be required when dead-ending access roadway/driveway exceed 300 feet.

D. When access for a given development requires accommodation of Fire Department apparatus, overhead clearance shall be unobstructed clear to the sky.

E. Improved walking access may be required to connect vehicular access with the required ingress and egress of the building. Required walking access shall be designed to prevent sharp turns or obstacles which would hinder the carrying of ground ladders, other hand held equipment, or rescue equipment.

F. Buildings 75 feet or greater in depth, from an approved Fire Department access roadway to the rear wall of the building, need not have the access roadway extended along the rear side of the building provided the building is protected by an approved fire sprinkler system and a four hour fire rated area separation wall extends along the rear wall of the building. All openings in the wall shall be protected by three hour fire rated assemblies.

Exception: Any building used for high-piled combustible storage shall comply with Section 81.109 of the Los Angeles County Fire Code.

G. Buildings with rail spurs shall have the access roadways located on the opposite side of the tracks from the building.

Drill track area may be used for the access roadway provided it has the proper base and the surface of the road is level with the top of the track rail.

The edge of the roadway shall be measured six (6) feet from the outside rail of the spur track.

H. All the roadway/driveways shall be labeled as "Fire Lane" on the final subdivision map or building plans. Labeling is necessary to assure the access availability for Fire Department use. The designation allows for appropriate notices prohibiting parking.

I. Demonstrate that all roadway/driveways will be constructed with paving which will support a 25 ton firefighting vehicle. Minimum paving standard shall be 2" of asphaltic concrete, or equal, over 4" of decomposed granite or equivalent.

J. Demonstrate that all roadway/driveways will not exceed 15% grade.

II. <u>High Density Residential i.e., (Apartments, Condominiums, etc.)</u>

Private access roadway/driveways serving these properties, shall provide a minimum unobstructed 26 feet clear to the sky access for firefighting vehicles, to within 150 feet of all portions of the exterior walls of the first story of any building.

The need for 26 feet or greater of access in these properties is as follows:

A. The structure conditions of these properties may require the deployment of a Fire Department aerial apparatus, when fires are beyond the incipient stage. Twenty-eight feet (28') of unobstructed width clear to the sky will accommodate an aerial truck with ground jacks in place, while providing sufficient clear roadway width for evacuation and the deployment of additional fire equipment. (See attached Figure #3)

B. The Department of Regional Planning requires 26 feet of clear access from a private roadway/driveway to a garage, carport or parking space.

C. Where fire hydrants are required, roadway/driveway width at the hydrant locations shall be a minimum of 26 feet.

In order to insure adequate access is provided in these occupancies the following design criteria shall be met.

1. Parking Restrictions
When roadway/driveways measure the following dimensions curb to curb, parking restrictions shall be:

26 feet: No parking allowed.

34 feet: Parallel parking allowed on one side only.

36 feet: Parallel parking is allowed on both sides of the street. Except in front of fire hydrants.

2. Fire Department approved turnarounds shall be required when dead-ending access roadway/driveways exceed 300 feet.

3. When fire hydrants are required, roadway/driveway width at the hydrant locations shall be a minimum of 26 feet. A linear distance of 25 feet clear is required on both sides of the hydrant.

4. When access for a given development requires accommodation of Fire Department apparatus, overhead clearance shall be unobstructed clear to the sky.

5. All the roadway/driveways shall be labeled as "Fire Lane" on the final subdivision map or building plans. Labeling is necessary to assure the access availability for Fire Department use.

The entrance to all required roadway/driveways with restricted parking and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs with the following wording:

"NO PARKING - FIRE LANE" in three-inch high letters.

6. Demonstrate that all roadway/driveways will be constructed with paving which will support a 25 ton fire-fighting vehicle. Minimum paving requirements shall be 2" of asphaltic concrete, or equal, over 4" of decomposed granite or equivalent.

7. Demonstrate that all roadway/driveways will not exceed 15% grade.

8. Any gates, to control vehicle access, are to be located to allow a vehicle waiting for entrance to be completely off the public roadway. If applicable, it is recommended that the gate(s) swing in both directions. The method of gate control shall be subject to review by the Fire Department.

9. Where the access requirements cannot be provided, approved fire protection system or systems shall be provided as required and approved by the Chief.

III. Multiple Residential Units - Utilizing "A Restricted Lot" Access Concept

A restricted access lot shall mean a lot whose shape and size restricts the width available for vehicle access.

The Fire Department will review each project with restricted access and may apply a modification of the standard access requirements if fire and life safety are not adversely affected. The modification from the standard 26' of unobstructed access shall not be to less than 20' of unobstructed width clear to the sky.

Due to topographic restrictions brought about by flag lots, this Department will allow a modification from the 26 feet of access required in multiple residential units to a minimum 20 feet of unobstructed width clear to the sky. (See attached Photo #1)

The modification under this section may be applied if there is compliance with all of the following requirements:

A. Development has less than ten (10) units.

B. The lot does not extend beyond 300 feet from an improved public street.

C. Single driveway.

D. Maximum of two stories.

E. The driveway shall be labeled "Fire Lane" on the final subdivision map or building plan.

The entrance to the driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs with the following wording:

"NO PARKING - FIRE LANE" in three-inch high letters.

F. Demonstrate that the driveway be constructed with paving which will support a 25 ton firefighting vehicle. Minimum paving requirements shall be 2" of asphaltic concrete, or equal over 4" of decomposed granite or equivalent.

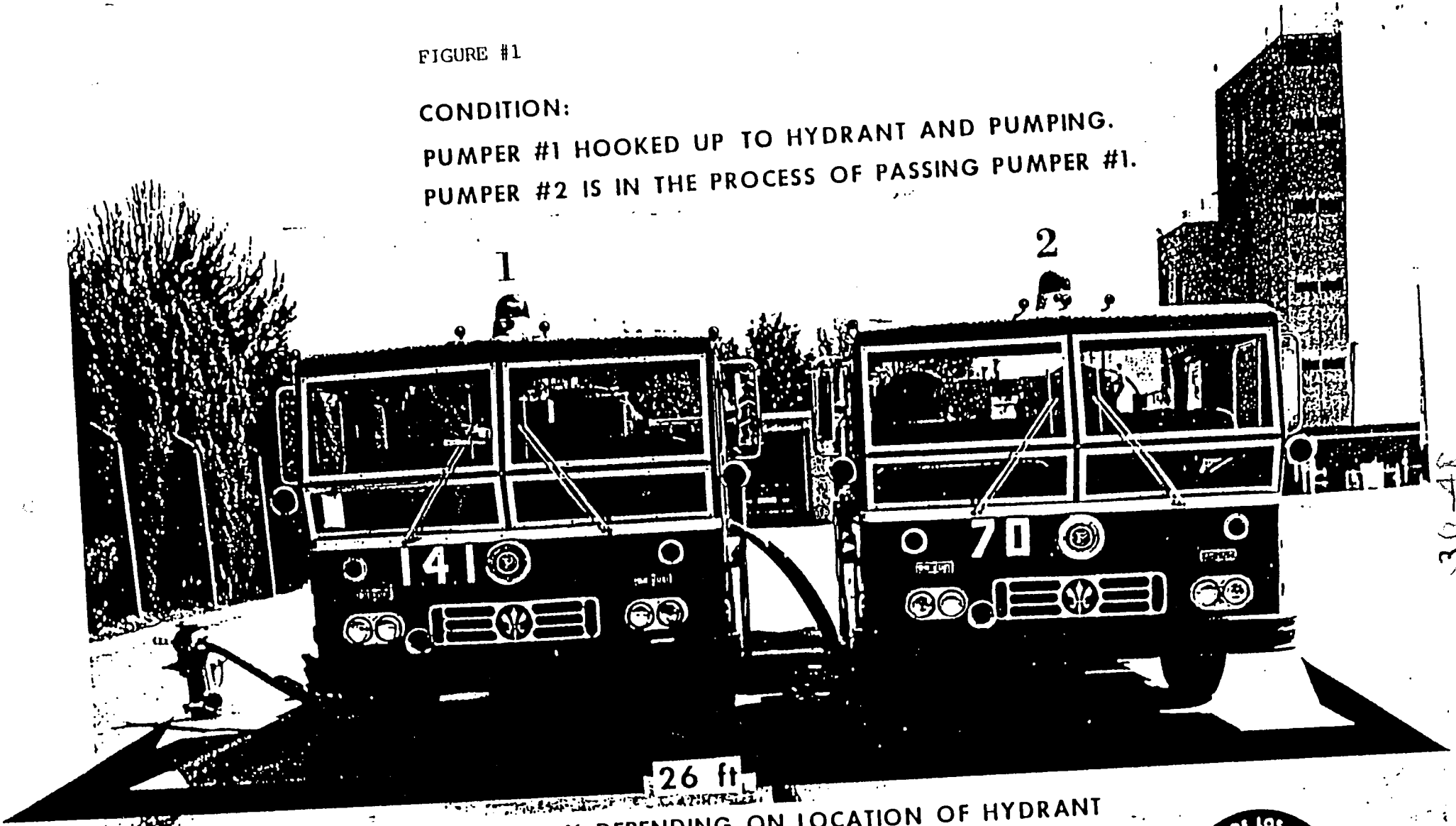
G. Demonstrate that the driveway will not exceed 15% grade.

FIGURE #1

CONDITION:

PUMPER #1 HOOKED UP TO HYDRANT AND PUMPING.

PUMPER #2 IS IN THE PROCESS OF PASSING PUMPER #1.



DISTANCE WILL VARY DEPENDING ON LOCATION OF HYDRANT

COUNTY OF LOS ANGELES FIRE DEPARTMENT

30-48

FIGURE #2

CONDITION:
LADDER TRUCK PARKED READY FOR OPERATION WITH PUMPER PASSING.

FIGURE #3

CONDITION:

PUMPER #1 PARKED WITH PUMPER #2 PASSING.

NO PUMPING OPERATION IN PROGRESS.

30-30

ACCESS DESIGN STANDARDS
FIRE APPARATUS - PUMPER

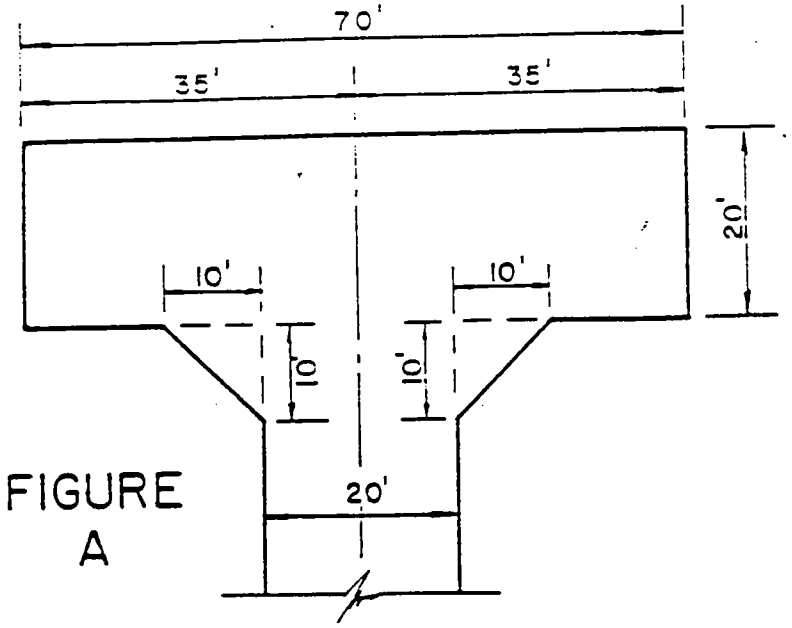


FIGURE A

HAMMER-HEAD TURN-AROUND

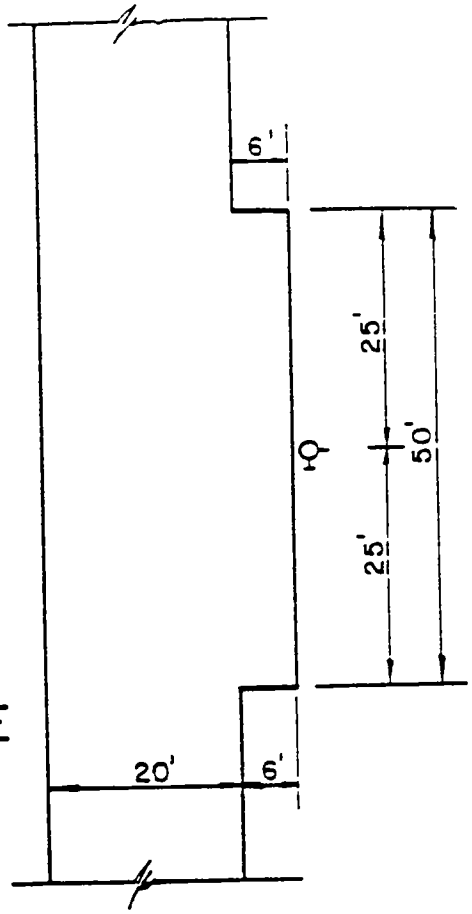


FIGURE B

AREA ADJACENT TO HYDRANT

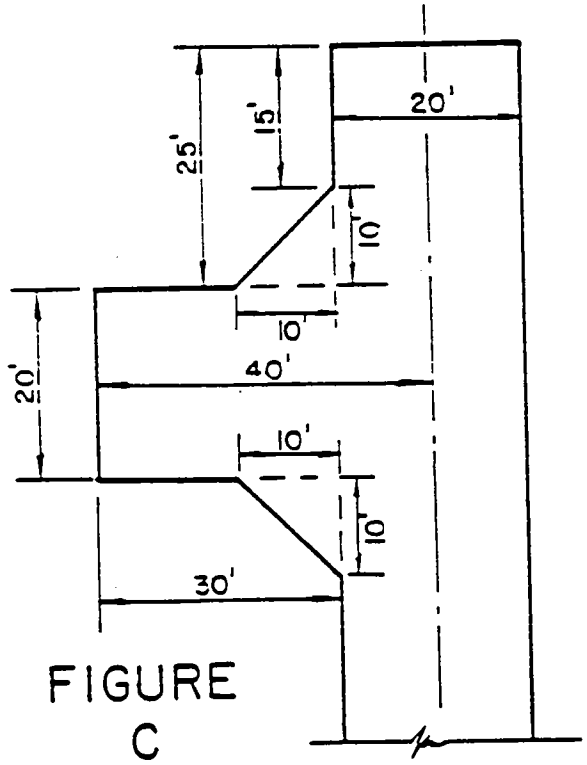
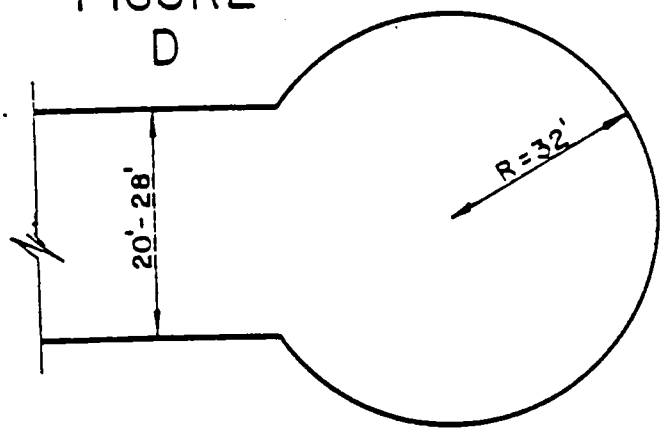


FIGURE C

INTERMEDIATE TURN-AROUND

FIGURE D



PRIVATE ST. (CUL-DE-SAC)

REFERENCE SHEET I

DRIVEWAY DESIGN ILLUSTRATIONS
FIRE APPARATUS - LADDER TRUCK AND SNORKEL

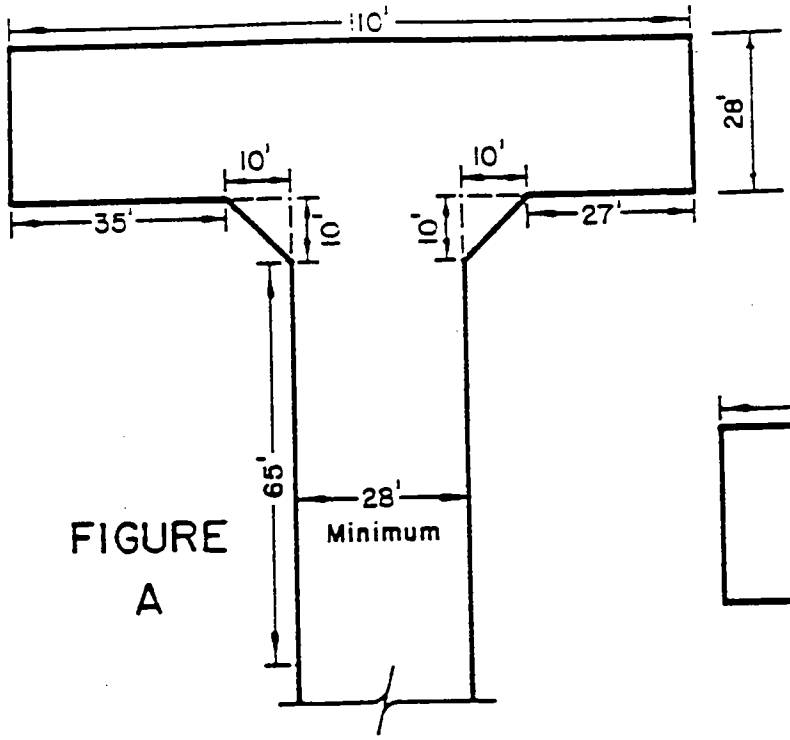


FIGURE A

HAMMER - HEAD
TURN - AROUND
Scale: 1" = 30'

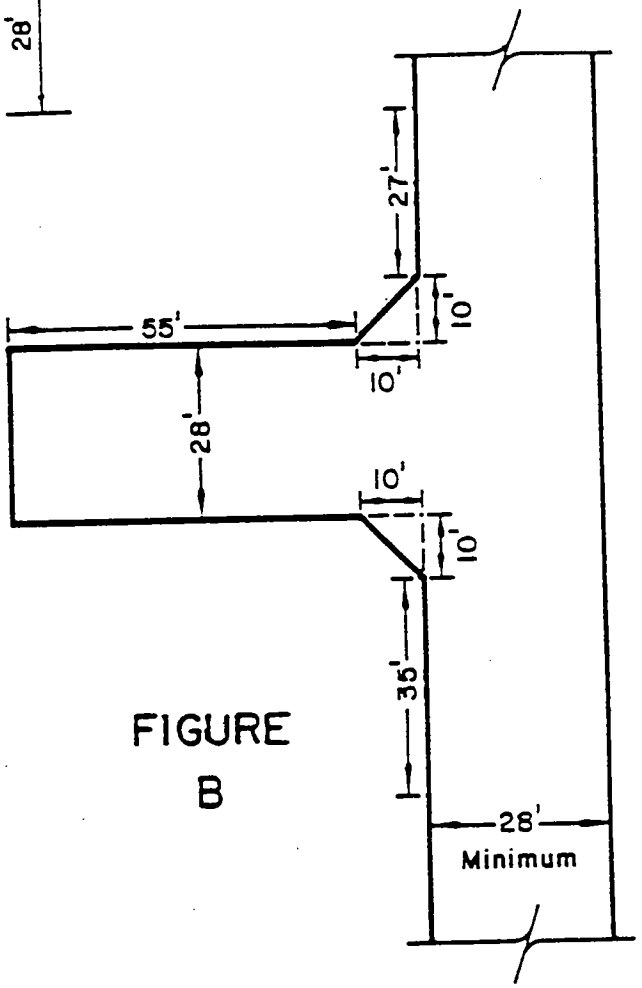
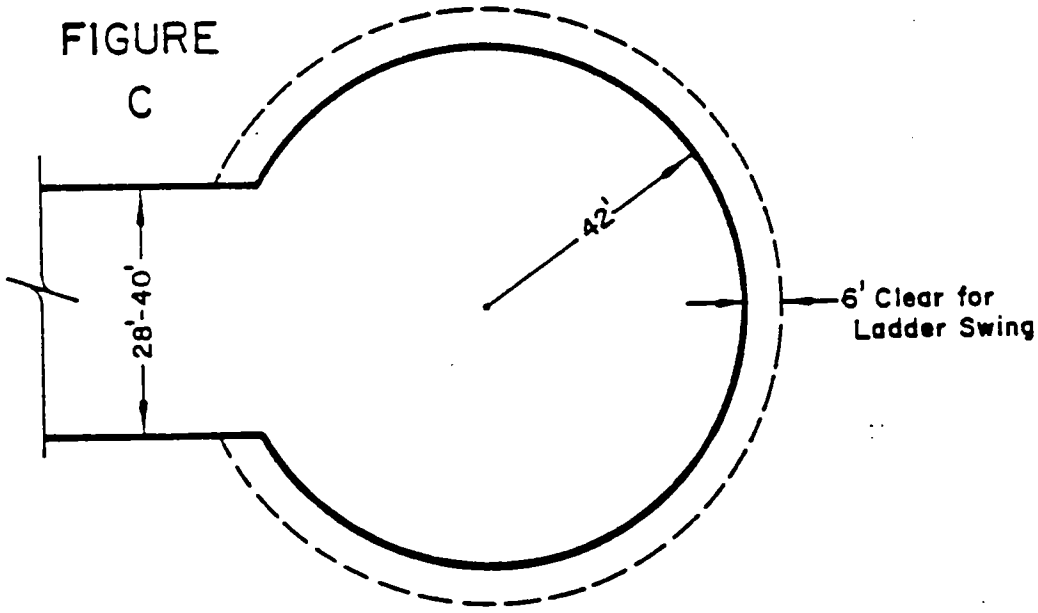


FIGURE B

INTERMEDIATE
TURN - AROUND
Scale: 1" = 30'

FIGURE C



COMMERCIAL, INDUSTRIAL OR
MULTIPLE RESIDENTIAL CUL-DE-SAC
Scale: 1" = 30'

REFERENCE SHEET II

5/81

30-52

TO: Plan Check Applicants

FROM: Land Development Division

INSTRUCTIONS FOR THE PREPARATION OF OFF-SITE COVENANTS

Whenever a developer proposes to do work outside his property or to do work which affects the adjoining property, the developer may be required to make a declaration of covenant to perform certain work and must obtain written permission from the adjoining property owner(s) in the form of a covenant which contains the following items:

1. A statement that the signer is the owner of the off-site property.

2. A description of the off-site property (for tract grading plans, each off-site grading area should be referenced to the subdivision lots or parcels to which it is adjacent).

3. Acknowledgment that the off-site owner or applicant has reviewed the plans and that he consents to the proposed work. Prints of these plans are to be dated and signed by the off-site owner or applicant and 1 set of prints shall be maintained in the office of the Land Development Division. Any significant changes in the scope of the off-site work shown on subsequent plans will require the submittal of a new covenant.

4. If necessary, a statement by the off-site owner affirming that he will irrigate planted slopes and maintain slopes and drainage devices within his property.

5. A statement by the owner, or developer, his heirs or successors, holding the County of Los Angeles free and clear of any liability for damages due to the proposed work must be copied verbatim from the sample document.

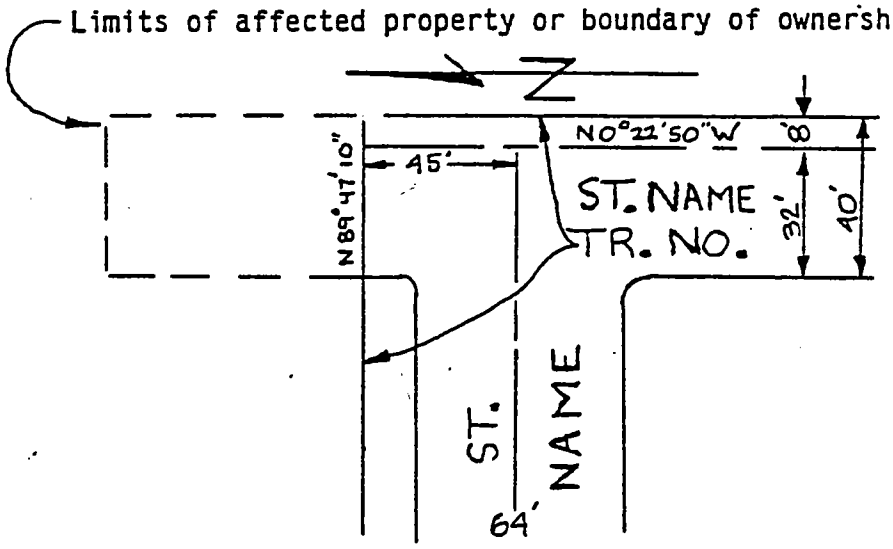
[ ] SUBMIT the Covenant to the plan checker for approval as to form prior to obtaining signatures.

[ ] COVENANTS MUST BE SIGNED, NOTARIZED, AND RECORDED. Two (2) signed and notarized copies of the covenant and 1 signed and dated set of prints of the plans shall be submitted to the plan checker for approval prior to recording the Covenant. Once approved, the Covenant must be recorded prior to approval of the plans.

[ ] RECORDATION is the responsibility of the applicant. The Recorder's office is located at 227 North Broadway, Room 15, Los Angeles, California 90012, Telephone (213) 974-6611. A conformed copy will be stamped by the County Recorder, if necessary, for immediate plan approval. Otherwise, the original should be returned to the designated section by the County Recorder in approximately 3 weeks.

10/13/88

Sample of map used in lieu of property description for Off-site Covenants.

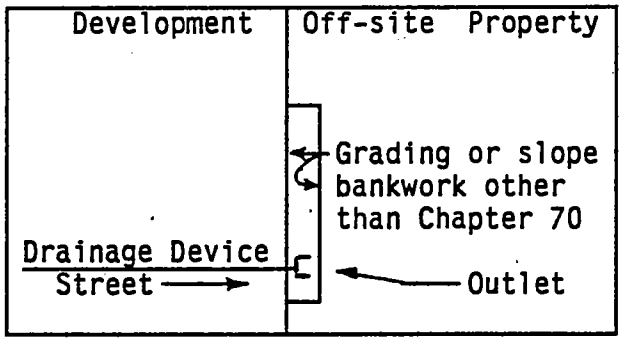


Refer to legal description for subject off-site property such as a portion of lot, tract, rancho, etc.

10/13/88

One or more of the following covenants will be required, as checked, from the off-site property owners and/or the owners of development, prior to approval of the plans for _____.

I. Outlet Facilities (Discharge of Flows and Earthwork on Off-site Property)



A. Maintained by Owner of Development

Sample No. 1 - Signed by Owner of Development

Sample No. 2 - Signed by Off-site Property Owner

Sample No. 3 - Signed by Off-site Property Owner

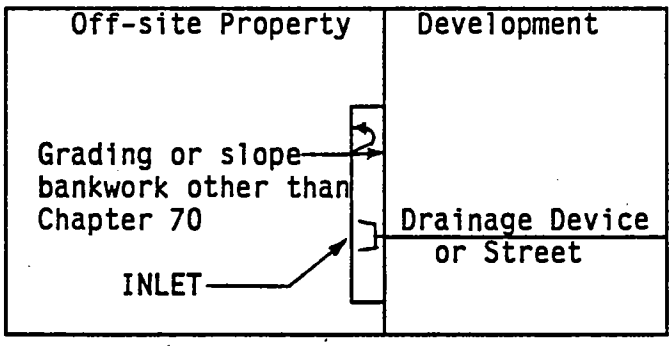
B. Maintained by Off-site Property Owner

Sample No. 4 - Signed by Owner/Developer

Sample No. 5 - Signed by Off-site Property Owner

10/13/88

II. Inlet Facilities (Acceptance of Flows from and Earthwork on Off-site Property)



A. Maintained by Owner of Development:

Sample No. 1 - Signed by Owner of Development

Sample No. 2 - Signed by Off-site Property Owner

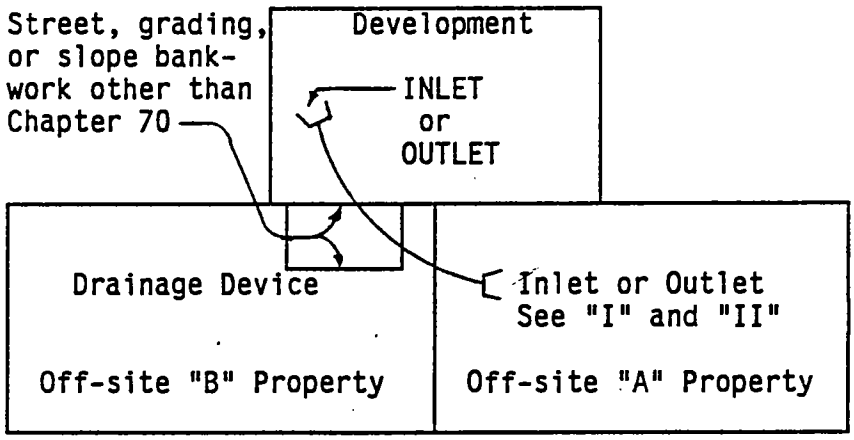
B. Maintained by Off-site Property Owner:

Sample No. 4 - Signed by Owner of Development

Sample No. 5 - Signed by Off-site Property Owner

10/13/88

III. Drainage Device (Conveyance of Flows Through Adjacent Off-site Property and Earthwork on Off-site Property)



A. Maintained by Owner of Development:

Sample No. 1 - Signed by Owner of Development (for Property "B")

Sample No. 2 - Signed by Off-site Property Owner "B"

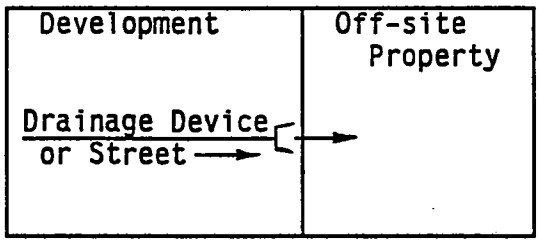
B. Maintained by Off-site Property Owner "B":

Sample No. 4 - Signed by Owner of Development (for Property "B")

Sample No. 5 - Signed by Off-site Property Owner "B"

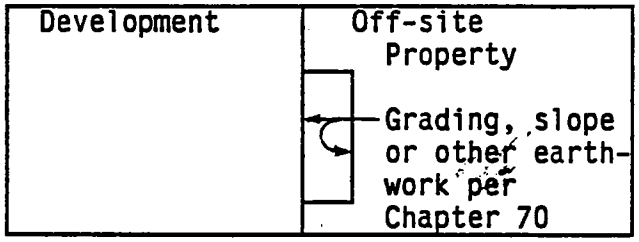
10/13/88

IV. Concentrated and/or Increased Flows--Outlet within Development



Sample No. 3 - Signed by Off-site Property Owner

V. Off-site Grading Per Chapter 70:



A. Must be maintained by the off-site property owner per Chapter 70, Section 7004, of the Building Code.

Sample No. 5 - Signed by Off-site Property Owner

10/13/88

SAMPLE COVENANTS FOR OFFSITE WORK

1. DECLARATION OF COVENANT BY OWNER OF DEVELOPMENT.

RECORDING REQUESTED BY AND MAIL ORIGINAL TO:

Land Development Division
☐ Drainage and Grading Section
☐ Road/Sewer & Water Section
P.O. Box 4089, Terminal Annex
Los Angeles, California 90051

Date: _____

Mr. T. A. Tidemanson, Director
Department of Public Works
County of Los Angeles

Attention: ☐ Drainage and Grading Section
☐ Road/Sewer & Water Section

OFFSITE COVENANT BY OWNER OF DEVELOPMENT TR/PM _____

In consideration for the granting of permission to enter and construct _____ (Description of Work), in accordance with plans dated _____ and filed with the Office of the Director of Public Works, County of Los Angeles, in, upon, and across ☐ (location of improvements by property description) ☐ (as shown on attached map) for the hereinafter referred to as the off-site property, _____ (Name of Owner of Development) as owner of _____ (Property Description of Development) has examined said plans

and hereby covenants and, agrees for himself, his heirs, successors, and assigns to indemnify, defend and save harmless the County, its agents, officers and employees, and the owners of said off-site property from and against any and all liability, expense, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the construction or maintenance of said drainage facility(s).

10/13/88

SAMPLE COVENANTS FOR OFFSITE WORK

2. DECLARATION OF COVENANT BY OFFSITE PROPERTY OWNER.

RECORDING REQUESTED BY AND MAIL ORIGINAL TO:

Land Development Division
☐ Drainage and Grading Section
☐ Road/Sewer & Water Section
P.O. Box 4089, Terminal Annex
Los Angeles, California 90051

Date: _____

Mr. T. A. Tidemanson, Director
Department of Public Works
County of Los Angeles

Attention: ☐ Drainage and Grading Section
☐ Road/Sewer & Water Section

OFFSITE COVENANT BY OFFSITE PROPERTY OWNER TR/PM _____

_____, as owner of _____
(Name of Owner of affected off-site property) ☐ (the property
_____, hereby gives per-
shown on attached map) ☐ (description of property)

mission to _____, hereinafter referred to as
(name of developer)
"DEVELOPER", to construct _____, in accordance
(description of work)
with plans dated _____ and filed with the Office of Director of Public Works, County of Los Angeles, and examined by the undersigned, in, upon, and across _____
☐ (location of improvement by property description) ☐ (as shown on
_____.
the attached map)

The undersigned also covenants and agrees for himself, his heirs, successors and assigns to indemnify, defend and save harmless the County, its agents, officers and employees from and against any and all liability, expense, including defense costs and legal fees, and claims for damages of any nature whatsoever,

10/13/88

including but not limited, bodily injury, death, personal injury, or property damage arising from or connected with the construction or maintenance of said facility(s) and grants permission to DEVELOPER, his heirs, successors, and assigns to maintain said drainage facility(s) in good condition unless discharged of this obligation by the County of Los Angeles.

_____
(Name if other than an individual)

/s/_____
(Name if an individual)
(Title if other than an individual)

/s/_____
(Title if other than an individual)

10/13/88

SAMPLE COVENANTS FOR OFFSITE WORK

3. Acceptance of Drainage by Adjacent Property Owner.

RECORDING REQUESTED BY AND MAIL ORIGINAL TO:

Land Development Division
☐ Drainage and Grading Section
☐ Road/Sewer & Water Section
P.O. Box 4089, Terminal Annex
Los Angeles, California 90051

Date: _____

Mr. T. A. Tidemanson, Director
Department of Public Works
County of Los Angeles

Attention: ☐ Drainage and Grading Section
☐ Road/Sewer & Water Section

DRAINAGE ACCEPTANCE COVENANT TR/PM _____

_____, as owner
(Name of Owner of Affected Property)

of ☐ (description of property) ☐ (as shown on attached map) hereby agrees

to accept the surface waters emanating from _____
(property description of development

as provided by drainage plans dated _____ and filed with the Office of the Director of Public Works, County of Los Angeles, and examined by the undersigned, with full knowledge of any alteration in drainage patters from the natural condition provided by said plans, and hereby agrees for himself, his heirs, successors, and assigns to indemnify, defend and save harmless the County, its agents, officers, and employees from and against any and all liability, expense, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with said alteration.

_____
(Name if other than an individual)

/s/ _____
(Name if an individual)
(Title if other than an individual)

/s/ _____
(Title if other than an individual)

10/13/88

SAMPLE COVENANTS FOR OFFSITE WORK

4. DECLARATION OF COVENANT BY OWNER OF DEVELOPMENT.

RECORDING REQUESTED BY AND MAIL ORIGINAL TO:

Land Development Division
☐ Drainage and Grading Section
☐ Road/Sewer & Water Section
P.O. Box 4089, Terminal Annex
Los Angeles, California 90051

Date: _____

Mr. T. A. Tidemanson, Director
Department of Public Works
County of Los Angeles

Attention: ☐ Drainage and Grading Section
☐ Road/Sewer & Water Section

OFFSITE COVENANT BY OWNER OF DEVELOPMENT TR/PM _____

In consideration for the granting of permission to enter and construct
☐ Grading ☐ Road _____, in accordance with plans
☐ (Description of Work)
dated _____ and filed with the Office of the Director of Public Works, County of Los Angeles, in, upon, and across
☐ (location of improvements
_____ for the
by property description) ☐ (as shown on attached map)

[ ] Offsite grading
[ ] Slope banks
[ ] Pavement transition from Sta ____ to Sta ____
[ ] Other

_____, as owner of _____
(Name of Owner/Developer) (Property description of
_____, has examined said plans and hereby covenants and agrees
development)

for himself, his heirs, successors, and assigns, to indemnify, defend and save harmless the County, its agents, officers and employees from and against any and all liability, expense, including defense costs and legal fees, and claims for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the construction or maintenance of said work.

10/13/88

The undersigned also covenants and agrees for himself, his heirs, successors, and assigns, to indemnify, defend, and save harmless the owners of _____ from and

☐ (description of off-site property) ☐ (as shown on attached map

against any and all liability, expenses, including defense costs and legal fees, and claims for damages of any nature whatsoever, including but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the construction of said work.

_____
(Name if other than an individual)

/s/_____
(Name if an individual)
(Title if other than an individual)

/s/_____
(Title if other than an individual)

10/13/88

SAMPLE COVENANTS FOR OFFSITE WORK

5. DECLARATION OF COVENANT BY OFFSITE PROPERTY OWNER.

RECORDING REQUESTED BY AND MAIL ORIGINAL TO:

Land Development Division
☐ Drainage and Grading Section
☐ Road/Sewer & Water Section
P.O. Box 4089, Terminal Annex
Los Angeles, California 90051

Date: _____

Mr. T. A. Tidemanson, Director
Department of Public Works
County of Los Angeles

Attention: ☐ Drainage and Grading Section
☐ Road/Sewer & Water Section

OFFSITE COVENANT BY OFFSITE PROPERTY OWNER TR/PM _____

_____, as owner of _____
(Name of owner of affected offsite property) ☐ (description of property) ☐ (as shown on attached map) hereby gives permission to

_____, hereinafter referred to as "DEVELOPER", to
(Name of Owner of Development)
enter and construct _____, in accordance with
(description of work)
plans dated _____ and filed with the Office of the Director of Public Works, County of Los Angeles, and examined by the undersigned, in, upon, and across _____
☐ (location of improvements by property description) ☐ (as shown on attached map) for the

[ ] Offsite grading
[ ] Slope banks
[ ] Pavement transition from Sta_____ to Sta_____
[ ] Other

The undersigned also covenants and agrees for himself, his heirs, successors, and assigns to indemnify, defend and save harmless the County, its agents, officers and employees from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages of any nature whatsoever, including but not limited to, bodily injury, death, personal injury, or property damage arising from or connected with the construction or maintenance of said work.

10/13/88

The undersigned also covenants and agrees on behalf of himself, his heirs, successors, and assigns to

- ☐ maintain said work in good condition unless discharged of this obligation by the County of Los Angeles
- ☐ irrigate planted slopes and to maintain slopes and drainage devices located on his property
- ☐ permit the County to enter upon the premises to do such maintenance work as may be required;

_____
(Name if other than an individual)

/s/_____
(Name if an individual)
(Title if other than an individual)

/s/_____
(Title if other than an individual)

10/13/88

DRAFT

CHAPTER 31

TEMPORARY EROSION CONTROL PLANS AND SUPPORTING DATA

As noted in Chapter 14 of this Manual, no grading permit shall be issued for work to be commenced between October 1 of any year and April 15 of the following calendar year, unless the plans for such work include details of protective measures, including desilting basins or other temporary drainage or control measures, or both, as may be necessary to protect adjoining public and private property from erosion damage, flooding or the deposition of mud or debris which may originate from the site or result from such grading operations. See Pages 31-3 through 31-9 for detailed instructions regarding scheduling of plan approval and the construction of the facilities. The Building and Safety/Land Development Division sends reminder notices to all applicants around August of each year. The form on Page 31-2 must be completed by the developer and be on file by November 1st or at the time of grading permit issuance. Pursuent to Chapter 70 of the Building Code, fines may be levied on noncomplying developers.

The conditions indicated in the review sheet shown in Chapter 14 on must be satisfied. Detail design measures that must be performed to satisfy County requirements are shown on Pages 31-3 through 31-8 and as follows:

A. Basins

Erosion control plans for larger sites will generally require the installation of desilting basins or the excavation of a pit to retain the mud and debris on site. Smaller sites or larger sites nearing completion can generally be adequately protected by appropriate sandbag installation. Some sites may be protected by a combination of desilting basin and sandbag installations depending on either the overall progress of the grading operation or on individual site conditions (see Pages 31-3 through 31-9 for details).

B. Information Required on Erosion Control Plans

See Pages 31-3 through 31-5.

C. General Notes for Erosion Control Plans

See Chapter 14 of this Manual.

In the event that a damage survey must be performed, the survey must contain all the applicable information noted in the table on Page 31-10.

SAMPLE "F"

PROVIDE THE FOLLOWING INFORMATION FOR EACH GRADING PROJECT WHICH REQUIRES EROSION CONTROL MEASURES

PROJECT LOCATION:_____
address or tract & lot no.

PERMITEE_____
ADDRESS_____
PHONE NO_____

OWNER:_____
ADDRESS_____
PHONE NO_____

FIELD ENGINEER_____
ADDRESS_____
PHONE NO_____

BONDING AGENCY_____
ADDRESS_____
PHONE NO_____

CONTRACTOR_____
ADDRESS_____
PHONE NO_____

CIRCLE TYPE OF WORK WHICH REQUIRES EROSION CONTROL:

grading street paving installation of permanent drainage devices

DISTRICT OFFICE MANAGER_____

DISTRICT OFFICE PHONE NO_____

DISTRICT OFFICE NO_____

INSTRUCTIONS FOR SUBMITTING TEMPORARY EROSION CONTROL PLANS

GRADING PROJECTS IN PROGRESS

Section 7010 of the Building Code requires that erosion control measures be provided for those grading projects which are in progress and not completed as of November 1 of each year.

Revised plans required by this section should clearly indicate the anticipated condition of the grading operation as of November 1, and each progressive phase thereafter during the rainy season. This information is essential in in determining the types of erosion control measures that should be installed for protection during each phase of the grading project.

Plan checking fees for the revised plans required by this section are equal to ten percent of the original grading permit fee.

GRADING PLANS FOR WHICH A PERMIT IS NOT YET ISSUED

Section 7010 of the Building Code requires that no grading permit be issued for those grading projects scheduled to begin between October 1 of any year and April 15 of the following year unless plans are approved indicating the erosion control measures that must be provided. This Section requires all protective measures be installed prior to any grading operation begun on or after November 1. Plans required by this Section should indicate those measures required to retain all eroded material on site during all stages of the rainy season grading operations. In other words, the plans shall indicate a phased erosion control scheme when appropriate.

Plan checking fees for the plans required by this section are included in the original plan check fee.

DEBRIS BASINS-WHERE REQUIRED

Erosion control plans for larger sites will generally require the installation of desilting basins or the excavation of a pit to retain the mud and debris on site. Smaller sites or larger sites nearing completion will generally be adequately protected by appropriate sandbag installation. Some sites may be protected by a combination of desilting basin and sandbag installations depending on either the overall progress of the grading operation or on individual site conditions. See the attached detail sheet titled "Minimum Desilting Basin Standard."

Desilting facilities shall be provided at all drainage outlets from the graded site and must be detailed on the plans. These plans shall include, but are not necessarily limited to, the following general requirements:

1. Indicate on the plan all drainage devices including Private Drains (P.D.'S) that will be operable on November 1.

2. Indicate all streets which will be paved by November 1. Desilting facilities will be required if streets are not paved by this date.

3. Outline the drainage area and graded area tributary to each desilting basin, for conditions as of November 1, and each stage thereafter. Indicate the acres for each of these tributary areas. Use 50 cu-yd/acre minimum for the required basin volume unless a lower rate is approved based upon recommendations of the Soils Engineer. Refer to the approved hydrology study for the appropriate Q which is multi-plied by 1.5 to determine the spillway design Q. Submit calculations for the spillway width (w). See attached detail sheet titled "Minimum Desilting Basin Standard."

4. All desilting facilities constructed with a pipe which outlets directly into a storm drain must be designed to prevent entry of debris into the system. Pipes at grade on the upstream side of the facility will not be accepted.

5. Erosion debris from fill slopes located at the site perimeter adjacent to offsite developed property must be controlled by the use of slough walls, plastic sheeting, other approved devices, or by a combination of these.

6. Pumps capable of draining desilting basins within 24 hours shall be provided where installation of gravity drain pipes are impractical.

7. A dike which directs flow to desilting basins or pits must be lined with concrete, sandbags, or other non erodible materials.

8. The following general notes shall be provided on the erosion control plans:

   A) "A stand-by crew for emergency work shall be available at all times during the rainy season (November 1 to April 15). Necessary material shall be available on site and stockpiled at convenient locations to insure the rapid construction of emergency devices. A Responsible Person shall be capable of being notified at a 24 hour phone number in case of an emergency."

   B) "Erosion control devices shown on this plan may be removed when approved by the the grading inspector if the grading operation has progressed to the point where they are no longer required."

   C) "Except as otherwise approved by the grading inspector, all devices shown on the plan shall be in place at the end of each working day or on weekends when the 5 day rain probability forecast exceeds 40%."

   D) "Graded areas adjacent to fill slopes located at the site perimeter must drain away from the top of slope at the conclusion of each working day."

   E) "All loose soil and debris which may create a potential hazard to offsite property shall be removed from the site."

   F) "All silt and debris shall be removed from all devices within 24 hours after each rainstorm."

INFORMATION REQUIRED ON EROSION CONTROL PLANS - (Con't)

G) "A guard shall be posted on the site whenever the depth of water in any device exceeds two feet. The device shall be drained or pumped dry within 24 hours after each rainstorm."

H) "The placement of additional devices to reduce erosion damage within the site is left to the descretion of the Field Engineer."

I) "Desilting basins may not be removed or made inoperable between November 1 and April 15 without prior approval of the Inspector."

DISK2/GUIDE1-3

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DRAINAGE AND GRADING SECTION

SHEET 1 OF 4

CALC. RL DATE 10/88

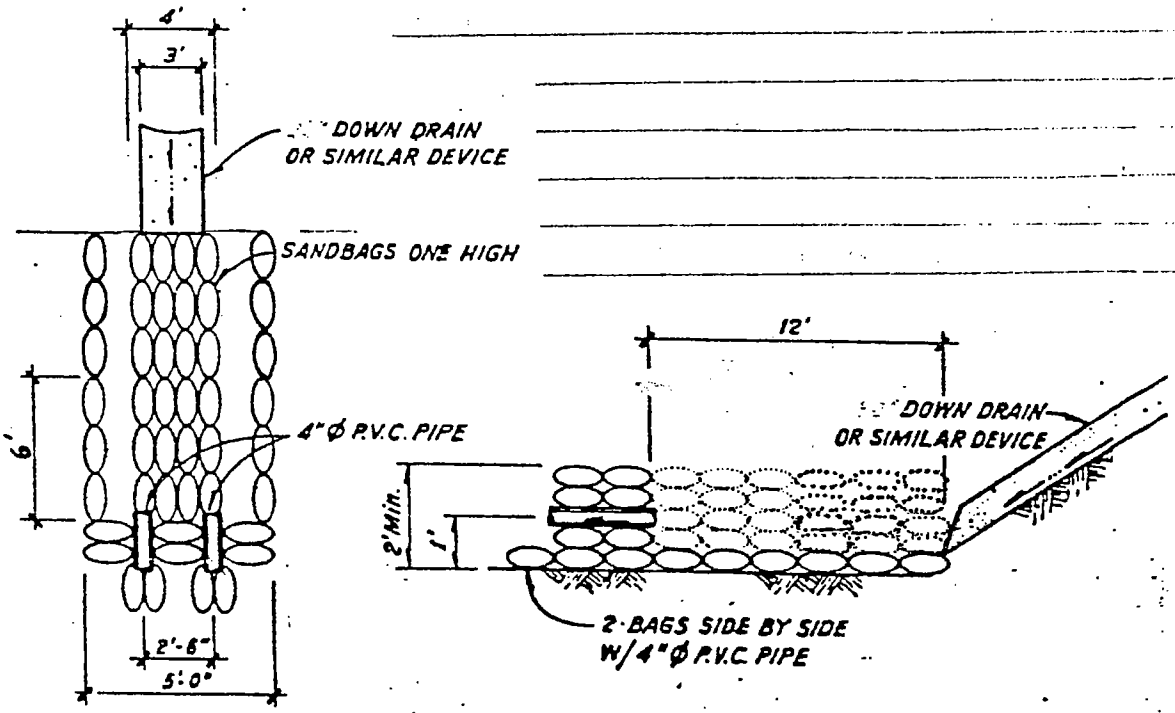
CHECK ____ DATE ____

REF. ____

PROJECT ____

EROSION CONTROL PLANS

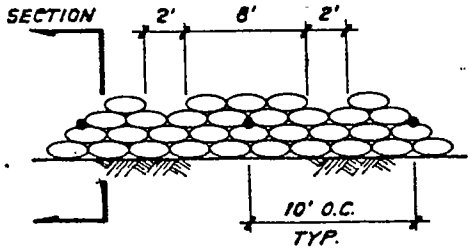
EROSION CONTROL DEVICES DETAILS

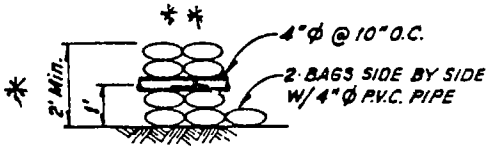


1 DIKE \ DEBRIS BASIN AT DOWN DRAIN

N.T.S.

EROSION CONTROL DEVICES DETAILS





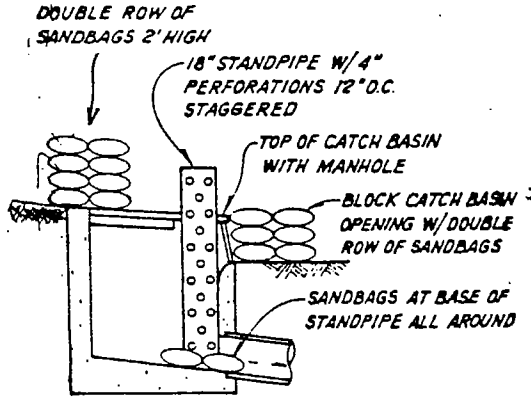
SECTION

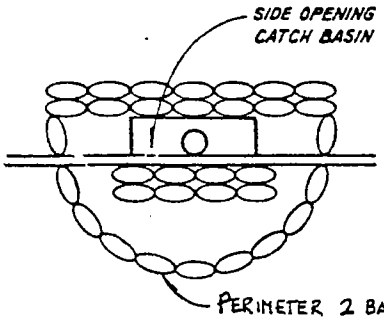
(3) CHECK DAM

N.T.S.

* HEIGHT OF CHECK DAM SHOULD NOT EXCEED 3 FEET.

** PROVIDE AN EXTRA ROW OF SANDBAGS FOR EVERY ROW OF SANDBAGS 3 BAGS HIGH.





PERIMETER 2 BAGS HIGH ABOVE PARKWAY SURFACE.
(OMIT ONE (1) BAG ON TOP ROW FOR INFLOW)

PLAN

(2) CATCH BASIN W/ STANDPIPE

N.T.S.

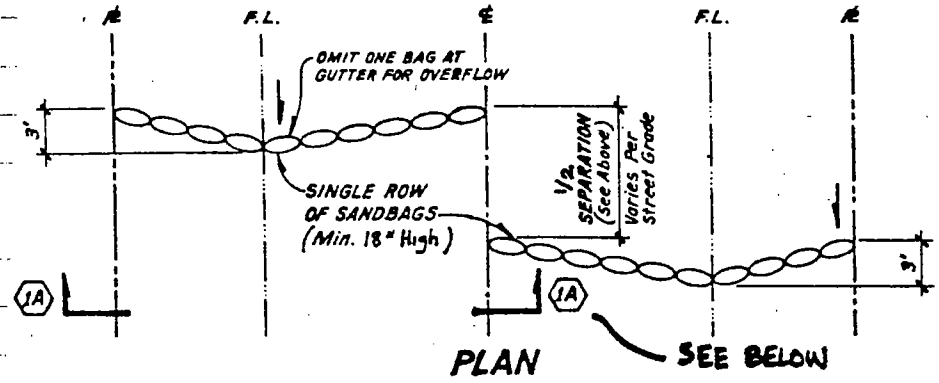
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DRAINAGE AND GRADING SECTION

PROJECT EROSION CONTROL PLANS

SHEET 3 OF 4
CALC. RL DATE 10/88
CHECK ____ DATE ____
REF. ____

EROSION CONTROL DEVICES DETAILS

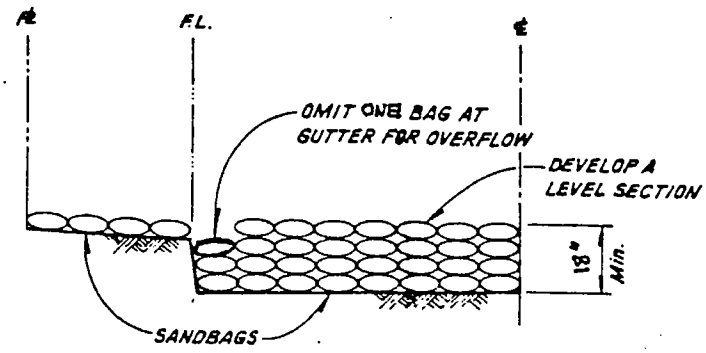
CHECK DAM ROWS	
STREET GRADE	SEPARATION
< 5%	100' O.C.
5%-10%	50' O.C.
>10%	25' O.C.



4 CHECK DAMS W/"V" ALIGNMENT

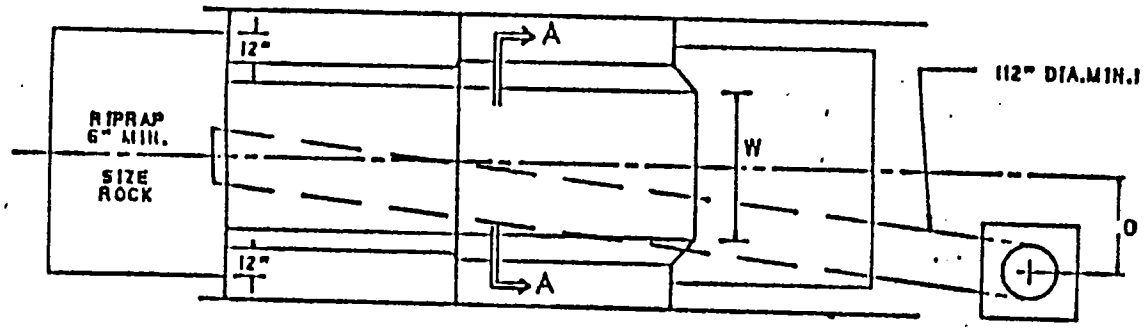
TO BE USED ON UNPAVED STREETS

N.T.S.

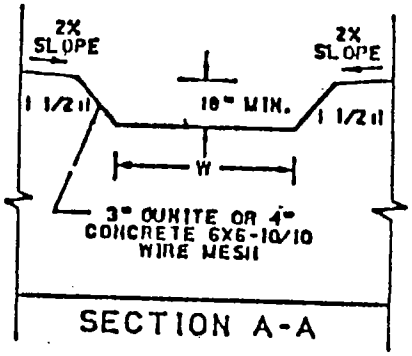


1A TYPICAL STREET CROSS SECTION

N.T.S.



DESIGN FOR
1.5 MAX. Q



SECTION A-A

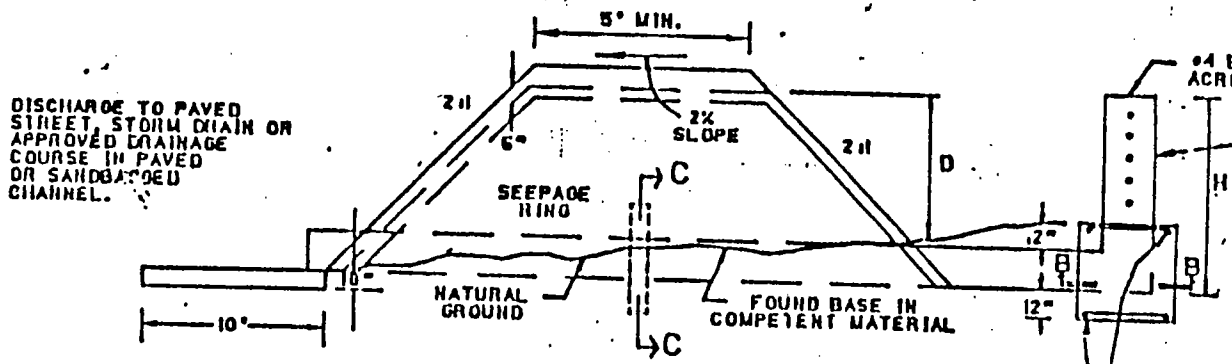
GUNITE OR CONCRETE AT THE OVERFLOW IS TO EXTEND DOWN EACH FACE OF THE DIKE.

#4 BARS @ 6" C.C. WELDED ACROSS TOP OF STANDPIPE

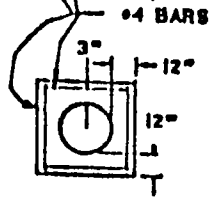
30" DIAMETER STANDPIPE

4" PERFORATION 12" O.C. STAGGERED

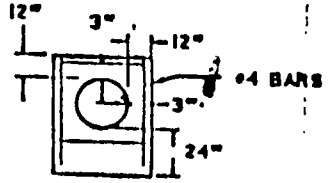
NOTE: PROPERLY ANCHORED GUY WIRES MAY BE SUBSTITUTED FOR THE ANCHOR BLOCK.



COMPACTION REPORTS ARE TO BE SUBMITTED ON EACH DIKE PRIOR TO FINAL APPROVAL.



SECTION B-B



SECTION C-C

DESILTING BASIN
DESIGN CRITERIA

1. INDICATE DIMENSIONS FOR D,H,W AND Q ON THE PLANS.
2. THE TOP OF THE STANDPIPE MUST BE SET AT THE ELEVATION OF THE TOP OF THE DIKE.
3. THE SPILLWAY MUST BE CONSTRUCTED WITH CONCRETE OR GUNITE WHEN D EXCEEDS 3' OR WHEN THE STORAGE VOLUME EXCEEDS 1 ACRE FOOT (1600 CUBIC YARDS). SANDBAGGED SPILLWAYS MAY BE ALLOWED FOR LESSER DEPTHS AND STORAGE VOLUMES DEPENDING ON EXISTING DOWNSTREAM DEVELOPMENT.
4. THE DIKE SHALL BE COMPACTED TO 95% COMPACTION.

DEPARTMENT OF COUNTY ENGINEER-COUNTY OF LOS ANGELES

BUILDING AND SAFETY DIVISION

MINIMUM DESILTING BASIN STANDARD

COUNTY ENGINEER STANDARD

DATE SEPT. 12,1984

REVISED TO

SHEET 4

This Form is to be used for all survey damage to structures after a disaster

WRITE CLEARLY ***BE ACCURATE*** ***BE COMPLETE***

The address must be complete -- 12345 N. Murray Dr. The compass point must be shown. The occupancy Groups A thru R are as used by the Uniform Building Code. This information will be used department wide for statistical purposes. All information shown except for "Remarks", can be key punched, sorted and printed by the compter. Use damage code letters listed below as they apply in the "Damage Code" column. You are not limited to the number of letters used, i.e., Flood abcdeg.

Earthquake

a. Roof
b. Walls
c. Foundation
d. Soil
e. Chimney
f. Floors
g. Fire
h. Ceiling
i. Furnace and ducts
j. Water Heaters
k. Elect. wiring and service
l. Electrical fixtures
m. Site cleared by demolition
n. Repaired

Flood

a. Foundation undermined
b. Inundated-non structural
c. Inundated-structural
d. Wall damaged (mud slides)
e. Slope Failure
f. Terrace drain damageed
g. Down drain damaged
h. Earth slide
i. Site cleared by demolition
j. Repaired

Fire

a. Shake roof
b. Shingle roof
c. Composition roof
d. Tile roof
e. Stucco wall
f. Veneer walls
g. Wood siding
h. Combination of e and g
i. Combination of f and g
j. Site cleared by demolition
k. Repaired

Riot

a. Fire
b. Broken windows
c. Vandalism
d. Structural damage
e. Site cleared by demolition
f. Repaired

When the computer is used, data can be updated by using the serial number shown on the computer report and the proper code letter:

A = Add new record
B = Change or add new info to existing record (re-enter only fields requiring change--for damage codes, re-enter all that should appear on the print-out)
D = Done (Closed out)
E = Erase (duplicate or entered in error)

CHAPTER 32

DRAINAGE CONCEPTS

DRAFT

Drainage concepts consist of determining the scope of the drainage facilities required to eliminate flood hazards in a development such as a subdivision. State Codes require that the building sites within the subdivision are free of flood hazards, and that adjacent property owners are not be adversely affected by the development. The following are the standards for preparing a drainage concept:

A. When Required.

Drainage concepts are required for certain tentative maps, conditional use permits and zone changes. Drainage Concepts are requested prior to tentative approval of the maps when one or more of the following conditions exists:

1. Hillside development with contributory (5 acres or greater) undeveloped drainage areas and drainage improvements are required.

2. Urban density single family residential or commercial developments, five acres or greater in size in the Antelope Valley.

3. Inadequate outlet conditions or identified downstream restricted capacity drains.

4. Developments encroaching into identified floodways, Antelope Valley Comprehensive Plan of Flood Control and Water Conservation or other documented flood prone areas.

5. The Development may adversely impact the surrounding area relative to flood hazards.

B. Drainage Concept Preparation

The Drainage Concept itself shall be plotted on the tentative map, or a map provided by the zone change or conditional use permit. The following information should be submitted with the Drainage Concept:

1. Preliminary hydrology with debris production areas identified and debris quantities listed. (Including offsite tributary areas).

2. Preliminary soils and geology reports related to debris basins and retention/detention basins (as needed based on geographic and topographic conditions).

3. Solutions to unique lot pad drainage.

4. Engineering calculations to support sizing of detention/retention basins (see Chapters 40 and 43 of this Manual, respectively.)

The following should be placed on the drawing:

1. Line identification of all proposed drainage facilities including debris control and storm water detention facilities, their access road alignments and property boundaries.

2. Location, size, and hydraulic capacities of existing drainage and flood control structures.

3. Approximate flood hazard and bank erosion setbacks and lot identifications (as needed).

4. Location of proposed drainage improvements and/or flow paths per the Antelope Valley Master Drainage Plan.

5. Location of adopted and proposed floodways.

6. Slopes for existing and proposed streets.

7. Proposed grading.

8. Applicable notes as shown on Page 32-3.

C. Required Calculations

These applicable calculations must be presented on "8 1/2 x 11" standard letter size paper. The details and data must be written in such a way that all information can be reproduced on existing copy machines. The sheet on Page 32-5 notes the items that are checked during the review. The approved drainage concept becomes a condition to be met prior to approval of either a tentative map, conditional use permit or a zone change.

The submitted drainage concept for the Antelope Valley and Acton area must account for the incremental increase in run off due to new development in addition to sheet drainage and flood hazard mitigation to lots.

D. Developers Responsibility

It is the responsibility of the developer to demonstrate to the satisfaction of the Department that the Drainage Concept when implemented will not incur liability to the County, the developer or the successors in the project ownership. The drainage concept must show that all waters leaving the property meets county and legal requirements/in that the owner has taken reasonable care in discharging flows from his property in a proper maner.

Los Angeles County Department of Public Works

Land Development Division

Drainage and Grading Section

Drainage Concept Note Checklist

Add the following checked notes to the Drainage Concept Plans:

___1) Hydrology information and storm drain alignments shown are not necessarily approved.

___2) Compliance of all street drainage requirements will be met to the satisfaction of the Department of Public Works.

___3) Necessary easements will be dedicated for the storm drain system to the satisfaction of the Department of Public Works.

___4) Vehicular access will be provided to all inlets and outlets to the satisfaction of the Department of Public Works.

___5) Approval of the drainage concept does not constitute determination that the offsite improvements are required within the meaning of Government Code Section 66462.5, (except as noted).

___6) An offsite drainage covenant for acceptance of drainage (and drainage facilities) may be required where indicated.

___7) A note of flood hazard will be required where indicated on this plan.

___8) A Drainage Benefit Assessment Area will be required for the maintenance of the proposed detention basin and storm drain facilities.

___9) A soil report consisting of in-situ testing and laboratory testing and the action needed to ensure continued percolation of the basin during and after the seven-day percolation period will be required.

Note: A four-day percolation rate should be achieved according to the 1991 Draft Design Standard Study for the Antelope Valley Basin Hydrology.

CHAPTER 33

FLOOD HAZARD STUDIES

DRAFT

A Flood Hazard Study is a study of the flow characteristics of a defined drainage course. A Flood Hazard Study is performed in conjunction with a Hydrology study (see Chapter 34 of this Manual). A study will be required when a developer desires to leave a portion of the property subject to a flood hazard and it has been approved as part of the tentative map conditions. If the owner selects this option, the following should be submitted to the Land Development Processing Center to be reviewed by the Drainage & Grading Section:

A. A map of the property showing the drainage course and contours at a suitable interval to provide accurate topography.

B. Cross sections of the drainage course showing elevations and distances at the upstream and downstream end of the development and at appropriate intervals to accurately describe the hydraulic characteristics of the drainage course.

C. The water surface elevation in the drainage course based upon the Hydrology study (see Chapter 34 of this Manual) shall be submitted by a Registered Civil Engineer. Any proposed structures adjacent to natural watercourses shall be free of flood hazards based on the burned and bulked Capital Flood Q.

D. Boundaries of the flood hazard areas which shall be shown and labeled by distance and bearing on the final map. Wherever possible, a straight line shall be drawn between ties. A note shall also be placed on the front sheet of the final map or grant of waiver indicating those lots subject to flood hazard.

If, in the final determination, the flood hazard area encompasses a large portion of the lot, or there is insufficient area for a well protected building site, the delineation of flood hazard may be disallowed and installation of drainage facilities will be required.

In the absence of an adopted or proposed floodway map prepared by the County, the minimum limits of a flood hazard area will be based on the "Typical Section for Determining Limits of Flood Hazard Area". Grading is not permitted within a flood hazard area.

The Department of Public Works may require a geotechnical report addressing proper bank erosion setbacks when necessary.

In lieu of basing the limits of a flood hazard on normal depth, the Department of Public Works may require that the limits be based on a gradual varied flow analysis (using the software WSPG) for drainage courses that are meandering, containing flood control or water conservation facilities, or having non-uniform grade, cross-section or surface features.

Areas of flood hazard are usually permitted on lots greater than one acre in size and that contain a buildable area and access free of flood hazard. For lot sizes of approximately one acre, the flood hazard area is only allowed across the rear of the lot provided that the drainage course is well defined and not likely to affect any proposed improvements.

CHAPTER 34

HYDROLOGY STUDIES FOR SATISFYING DRAINAGE REQUIREMENTS

Hydrology Studies are required for most subdivision development, and many large single lot grading and building projects. They are also required when there is a tributary drainage area that may impact the proposed development relative to potential flood hazards and diversion or blockage of existing flow patterns. The study may be done in conjunction with flood hazard studies (see Chapter 33). The study must be substantially approved prior to any improvement plan submittals.

A. Criteria and Methods

All studies must meet the following level of Flood and Drainage protection standards that have been adopted by the Department of Public Works unless otherwise approved by the Land Development Division due to the lack of compatible downstream drainage systems:

1. Capital Flood Protection is based on a rainfall with a probability of occurrence (recurrence interval) of once in 50 years falling on a saturated watershed. This flow rate shall include bulking due to debris and a burn over the watershed, or the developed clear-flow condition, which ever is greater.

   a. Natural Watercourses

      All facilities that are constructed in, or intercept flood waters from natural watercourses shall be designed for the Capital Flood. These include open channels, closed conduits, bridges, and debris basins or dams (not under State of California jurisdiction). This also includes channels and conduits that are designed to carry debris. See Page 33-1, Chapter 33 for the definition of a watercourse.

   b. Floodways - All areas mapped as floodways shall be mapped based on the Capital Flood.

   c. Natural Depressions or Sumps

      All facilities that are constructed to drain natural depressions or created sumps shall be designed for a Capital Flood. These include channels, closed conduits, retention basins, detention basins, desilting and debris basins, pump stations and highway underpasses. A depression or sump is an area for which there is no surface route to outlet flows. Furthermore, for the purposes of this definition, a depression or sump also meets one or more of the following conditions:

      1/ Would have a ponded water surface elevation, during a Capital Flood, within one foot below the bases of adjacent habitable structures, if such elevation would result from construction of facilities with less than a Capital Flood capacity. This condition does not apply where there is a surface route for outflow such that the ponded water surface cannot reach the bases of adjacent structures during a Capital Flood.

      2/ In a roadway, would have a ponded water surface elevation higher than the elevation of the public right-of-way line if facilities with less than a Capital Flood capacity were constructed. This condition applies to flows which reach the roadway upstream of the sump and are conveyed to the sump by the roadway.

3/ Has a ponded depth of three feet or greater.

d. Culverts under major and secondary highways.

2. Urban Design Storm Protection (based on a rainfall with a probability of occurrence (recurrence interval) of once in 25 years). This flow rate shall include bulking for debris as deemed necessary or the developed clear flow condition, which ever is greater.

The Urban Design Storm shall be the level of protection for all developed areas other than under conditions described in Item 1 above.

In the Antelope Valley on an interim basis the surface capacity of the street or highway may be used up to a water surface level not exceeding the road right-of-way line. However, in most cases, the available surface capacity of the street will be restricted by vehicular or pedestrian traffic drainage safety requirements. (See Chapter 44 of this Manual.)

Maximum street capacity, as defined herein, is the capacity of the street section to carry flows within street right-of-way (depth of flow does not exceed either property line). See Department of Public Works Highway Design Manual for criteria on quantity of water to be removed from the road surface to provide favorable conditions for vehicular and pedestrian traffic for a particular level of protection. This may increase the level of protection required to be provided by the drain.

If a storm drain is required to reduce the water surface level in the street to an acceptable level, it shall be designed for not less than 10 years frequency rainfall flow rates. The storm drain capacity shall be increased where necessary to lower the water surface level for the 25-year frequency storm to within road right of way or to meet other requirements as indicated above.

The hydrology for a retention (percolation) basin is described in Chapter 43 of this Manual. This facility has special requirements based on a 25-year storm.

3. Probable Maximum Flood Protection

All dams and reservoirs (earth embankment, concrete or other materials) that fall under the control of the State of California laws defining dams shall be constructed to safely pass the probable maximum flood as determined from the probable maximum precipitation as defined by the National Weather Service.

4. Flow Determination Standards

a. The latest County charts for runoff coefficients, intensity-duration values, and mass curves of rainfall shall be used. These are published in the Department of Public Works' Hydrology Manual.

b. For individual watersheds, the engineer may use either the Department of Public Works Rational Method or the Modified Rational Method. The Department's Modified Rational Method and Rational Method are explained in Section 4B and 4C respectively of the Department's Hydrology and Sedimentation Manual dated December 1991.

c. For watersheds with 2 or more sub-areas, or for individual watersheds with times of concentration exceeding thirty minutes, or for watersheds exceeding 100 acres, the Modified Rational Method must be the basis for determining runoff.

d. Hydrology flow rates for existing regional channels or major watercourses under the jurisdiction of the Los Angeles County Flood Control District shall be obtained from the

Hydrology Section of Hydraulic/Water Conservation Division. Existing channel design flow capacities are available from Design Division.

e. Flows for small developed watersheds of only one sub-area and up to 10 acres may be taken from charts furnished by the Department of Public Works. (See Pages 34-4 through 34-6 for copies). Appendix L of the Department's Hydrology and Sedimentation Manual contains an example calculation for small developed watersheds.

B. Submitted Data

Hydrology studies submitted for review to Land Development Division must be prepared by a California Registered Civil Engineer and shall be done in accordance with the Department of Public Works Hydrology Manual. (See submittal requirements on Pages 34-7 and 34-8.) In addition the following criteria shall be met:

1. Drainage Map

The drainage map(s) for the development must include all off site contributory drainage areas. It shall be prepared in accordance with applicable sections described in the Hydrology Manual and of sufficient scale to show details for accuracy. Off-site areas shall have a scale no smaller than 1 inch = 1000 feet. In addition it shall contain the following information.

a. Street locations and proposed street slopes, grading, and on-site drainage pattern.

b. All drainage boundaries shall be distinctly outlined and colored to separate one from another.

c. Flows at each concentration point and reach flow for each line shall be clearly shown.

d. Proposed storm drain alignments and also existing drainage facilities within the tributary drainage boundaries.

e. The map shall be clearly legible so that clear copies can be made.

2. Calculations

All calculations must be done in accordance with the procedures described in the Hydrology Manual, and the previously described methods. (Using computer programs for the Modified Rational Method that are noted in Chapter 50 of this Manual is acceptable.)

If the proposed development affects a State Highway, approval from Caltrans will be required. (See Chapter 50 of this Manual.) Development plans will not be accepted without Caltrans approval of the Hydrology Study. Caltrans should be consulted regarding acceptable hydrology calculation (tabling) methods including time of concentration.

Runoff Coefficient Groups

RC	G	RC	G	RC	G	RC	G	RC	G	RC	G	RC	G	RC	G	RC	G
1	-	21	B	41	B	61	B	81	A	101	B	121	B	141	A	161	B
2	A	22	A	42	A	62	A	82	A	102	A	122	B	142	A	162	A
3	B	23	A	43	B	63	A	83	-	103	A	123	A	143	B	163	A
4	A	24	B	44	A	64	A	84	B	104	A	124	B	144	B	164	A
5	A	25	A	45	B	65	A	85	B	105	A	125	B	145	B	165	A
6	A	26	B	46	B	66	A	86	B	106	B	126	B	146	A	166	B
7	A	27	B	47	A	67	B	87	B	107	A	127	B	147	A	167	A
8	A	28	B	48	A	68	A	88	B	108	A	128	B	148	B	168	B
9	A	29	A	49	A	69	B	89	A	109	A	129	B	149	B	169	B
10	B	30	B	50	A	70	A	90	A	110	A	130	B	150	B	170	B
11	A	31	B	51	A	71	A	91	A	111	A	131	B	151	A	171	B
12	A	32	A	52	B	72	A	92	A	112	A	132	B	152	A	172	B
13	A	33	A	53	B	73	A	93	A	113	A	133	A	153	B		
14	A	34	A	54	A	74	B	94	A	114	A	134	B	154	A		
15	B	35	B	55	A	75	B	95	A	115	A	135	A	155	A		
16	A	36	A	56	A	76	B	96	B	116	B	136	B	156	A		
17	A	37	B	57	B	77	A	97	A	117	A	137	A	157	B		
18	B	38	A	58	A	78	B	98	A	118	A	138	B	158	B		
19	B	39	A	59	A	79	A	99	A	119	B	139	A	159	A		
20	B	40	A	60	B	80	A	100	A	120	A	140	A	160	B		

RC = Runoff Coefficient Curve Number
G = Group Letter (See Pages 2 & 3)

NOT for use for Areas Greater than 10 Acres ***

Los Angeles County
Department of Public Works

Capital Flood Q's For Smal

Developed Drainage Areas
-
Runoff Coefficient Group
Definition

Area (Acres)	Q in cfs for a 50-Year Rainfall and Zone:				
	I	J	K	L	M
0.5	2.0	1.5	2.3	2.8	3.3
1.0	4.0	2.9	4.5	5.6	6.5
1.5	5.9	4.4	6.8	8.4	9.8
2.0	7.9	5.9	9.1	11.0	13.0
2.5	9.9	7.4	11.0	14.0	16.0
3.0	12.0	8.8	14.0	17.0	20.0
3.5	14.0	10.0	16.0	19.0	23.0
4.0	16.0	12.0	18.0	22.0	26.0
4.5	18.0	13.0	20.0	25.0	29.0
5.0	20.0	15.0	23.0	28.0	33.0
5.5	22.0	16.0	25.0	31.0	36.0
6.0	24.0	18.0	27.0	33.0	39.0
6.5	26.0	19.0	29.0	36.0	42.0
7.0	28.0	21.0	32.0	39.0	46.0
7.5	30.0	22.0	34.0	42.0	49.0
8.0	32.0	24.0	36.0	45.0	52.0
8.5	34.0	25.0	39.0	47.0	56.0
9.0	36.0	26.0	41.0	50.0	59.0
9.5	38.0	28.0	43.0	53.0	62.0
10.0	40.0	29.0	45.0	55.0	65.0

NOT for use for Areas Greater Than 10 Acres.

Frequency Adjustment	
Frequency	Factor
10 Yrs.	0.696
25 Yrs.	0.855

To Adjust from a 50 Year Frequency to a 10 or 25 Year Frequency, Multiply the Table Q by the Factor.

Los Angeles County
Department of Public Works

Capital Flood Q's For Small Developed Drainage Areas
-
Runoff Coefficient Group A

Area (Acres)	Q in cfs for a 50-Year Rainfall and Zone:				
	I	J	K	L	M
0.5	1.8	1.4	2.1	2.6	3.0
1.0	3.3	2.6	4.0	4.9	5.7
1.5	4.8	3.7	5.8	7.1	8.2
2.0	6.2	4.9	7.6	9.2	11.0
2.5	7.6	6.0	9.4	11.0	13.0
3.0	8.9	7.0	11.0	13.0	15.0
3.5	10.0	8.1	13.0	15.0	18.0
4.0	12.0	9.2	14.0	17.0	20.0
4.5	13.0	10.0	16.0	19.0	22.0
5.0	14.0	11.0	18.0	21.0	24.0
5.5	15.0	12.0	19.0	23.0	27.0
6.0	17.0	13.0	21.0	25.0	29.0
6.5	18.0	14.0	23.0	27.0	31.0
7.0	19.0	15.0	24.0	29.0	33.0
7.5	20.0	16.0	26.0	31.0	35.0
8.0	21.0	17.0	27.0	33.0	37.0
8.5	23.0	18.0	29.0	35.0	40.0
9.0	24.0	19.0	30.0	36.0	42.0
9.5	25.0	20.0	32.0	38.0	44.0
10.0	26.0	21.0	34.0	40.0	46.0

NOT for use for Areas Greater Than 10 Acres.

Frequency Adjustment	
Frequency	Factor
10 Yrs.	0.696
25 Yrs.	0.855

To Adjust from a 50 Year Frequency to a 10 or 25 Year Frequency, Multiply the Table Q by the Factor.

Los Angeles County
Department of Public Works

Capital Flood Q's For Small

Developed Drainage Areas
-
Runoff Coefficient Group B

HYDROLOGY STUDIES

Submittal requirements:

Hydrology studies submitted for review to Buildingand Safety/Land Development Division must be prepared by a Registered Professional Engineer and shall include the following:

1. A minimum of 3 drainage maps for the development including all off-site contributory drainage areas. The off-site drainage area may be submitted as a separate map and must be of a scale of not less than 1" = 1000'. The following information must be shown on all maps:

   a. Civil Engineer's signature, stamp and expiration date.

   b. Title block which reads "Hydrology Study For _____."

   c. Location map.

   d. North Arrow and scale.

   e. Table showing the hydrologic design data (i.e. storm frequency, rainfall zone, soil type, DPA zone, burn factor, bulking factor, percent imperviousness, etc.).

   f. Proposed and existing drainage patterns.

   g. Proposed and existing drainage devices and storm drain improvements identified by number or name, including the design Q and tributary area for each existing drain.

   h. Street locations, names, proposed slopes, and typical sections.

   i. Adequate toptgraphy to support the area boundary determinations.

   j. Subarea labels, boundaries and acreages. Subarea boundaries must be distinctly outlined in color.

   k. Existing ridge lines.

   l. Main line, lateral and inlet design Q's and Q's for each subarea.

   m. Time concentration (tc) for each subarea.

   n. Bulked Q's, clear water Q's, and debris potential volumes for debris producing areas, in accordance with the procedures in the Department's Hydrology and Sedimentation Manual.

   o. Drainage area and Q tributary to downdrains which discharge to streets across lot pads.

2. A minimum of 3 sets of calculations, including all assumptions and physical data, as required below:

   a. Q calculations must be done in accordance with the LACDPW Modified Rational Method for tributary areas greater than 100 acres, or for any size tributary area which includes a storm drain that picks up flows at two or more locations, or for individual watersheds where the time of concentration exceeds 30 minutes.

b. Time of concentration shall be determined by the Rational Method Hydrology (if greater than 5 minutes).

c. Flowrates for small watersheds up to 10 acres may be taken from the "Capital Flood Q's for Small Developed Drainage Areas" chart.

d. A pre-development hydrology study and a post-development hydrology study is required to determine Delta Q's and Delta Volumes in the Acton and/or Antelope Valley areas.

e. Q calculations may be done in accordance with either the LACDPW Modified Rational Method Hydrology or the LACDPW Rational Method for single tributary areas of 100 acres or less.

*** Additional map information and calculations may by required upon detailed review.

3. The minimum deposit to open a plan checking account $1000.

CHAPTER 35

DRAFT

HYDRAULIC CALCULATIONS FOR SATISFYING DRAINAGE REQUIREMENTS

All streets and drainage devices required for the approval of a grading plan or a subdivision must have hydraulic calculations. These calculations must demonstrate that the anticipated design flows as determined by the drainage concepts (see Chapter 32), flood hazard studies (see Chapter 33) and the hydrology studies for satisfying drainage requirements (see Chapter 34) have been satisfactorily determined and that public health and safety will not be endangered. Hydraulic analysis must be performed for the existing conditions and compared with the proposed conditions to identify any impacts that may be caused by the development.

The hydraulic calculations must be submitted to the Building and Safety/Land Development Division for review. The Calculations must be submitted in report form and be signed by registered civil engineer in responsible charge of preparing the calculations. Both the design engineer and the County reviewers are cautioned that the results of the computations may not reflect actual field conditions. The results should be compared with known field events and if necessary adjustments made to the calculations. The design engineer's recommendations must be based on all known factors and must be to the satisfaction of the County reviewers. As required of any engineering document, the engineer must also affix his/her stamp or seal along with his/her registration expiration date. In order to speed up the review and approval of the hydraulic calculations, the following should be done:

1. The calculations should be on 8-1/2 inch by 11 inch paper.

2. The calculations should be bound together in such a manner that the pages are not easily separated and lost. Yet they can be separated for scanning.

3. The cover sheet of the calculation report should contain the project identification and should reference the applicable reference plans.

4. The calculations must be consistent with the latest set of submitted plans. Each calculation must be referenced to a specific hydraulic section and stationing.

These hydraulic calculations must meet the procedures and methods established in the Hydraulic Design Manual and the Sedimentation Manual for channels subject to sediment flow (see Chapter 54 regarding the obtaining of this Manual). All hydraulic calculations done using in Manual hand calculation procedures must be summarized and tabulated in table form as shown on Pages G-1 and G-5 in the L.A.C.F.C.D. Hydraulic Design Manual. For an example of required calculation procedures and forms see example problem on Page F-16 of the Hydraulic Design Manual. This Manual contains the following items:

a) Design hydrology

b) Criteria for hydraulic design: Closed conduit

c) Criteria for hydraulic design: Open channels

d) Catch basins

e) Pump station design (For major systems)

f) Miscellaneous calculations

There are several computer programs that are acceptable to the County regarding performing hydraulic calculations (refer to Section B-6 of the Hydraulic Design Manual). The following computer software has been accepted by the Department for performing hydraulic calculations (see Chapter 54 for obtaining this software):

a) Water Surface and Pressure Gradient Program (WSPG), Latest Version (F0515T). This program provides calculations for both open channel flow and for a water surface pressure gradient in a closed channel flow. This program can only analyze mainline flows including natural irregular sections. It cannot handle lateral system hydraulics during the same computer run that analyzes the main line. Laterals must be analyzed individually.

b) Storm Drain Analysis (PC/RD4412). This software and documentation covers primarily closed conduits flow. It has the capacity to allow for either pressure flow or partial flow with cross sections being either circular or rectangular box. A circular or rectangular open channel can be analyzed as a partial flowing pipe or a box cross section (provided special care is taken) but trapezoidal and natural irregular sections can not be analyzed. This program can analyze both mainline and lateral hydraulics at the same time.

c) HEC-2 water surface profiles developed by the U.S. Army Corps of Engineers may be utilized for modeling natural streams where the capabilities of WSPG described in item a) are exceeded.

For information regarding obtaining design manuals and computer software, see Chapter 50 of this Manual.

All hydraulic calculations as required under Chapters 14, 18, 20 and 21 will be checked in accordance with the procedures described in those Chapters. This check consists of inputting the reviewed data into the Division's computer and using the software previously described. If the computer's results do not match the permitted design recommendations, additional review will be required and the consultant will have to determine the discrepancy between his submitted hydraulic calculation and the Division's calculation.

In order to facilitate the review of large projects containing considerable hydraulic calculations utilizing the above referenced computer programs, it is requested that a disk containing all the computer input data be submitted along with the required hard copy of the calculations. This input data will be entered into the Department's software in order to verify the engineer's output data and recommendations.

CHAPTER 36

DRAFT

PRIVATE DRAIN PLANS AND SUPPORTING DATA

The necessity and the procedure for processing private drains are described in Chapter 18. The required hydraulic calculations needed for designing private drains are described in Chapter 35 of this Manual. The following are the minimum standards for designing a private drain plan and preparing plans:

I. Establishment of Private Drain Needs and Future Maintenance

The need for a private drain and who will maintain it must be determined during the early stages of the development planning process such as during the tentative map approval, grading plan approval or for single lot development, building plan approval, etc. In order to make this decision, the development plans (see Chapter 30 of this Manual), drainage concepts (see Chapter 32 of this Manual), flood hazard studies (see Chapter 33 of this Manual) and the hydrology study (see Chapter 34 of this Manual) must be nearly completed.

A. Conditions which require Private Drains

Private drains will be required when the drainage system will be publicly maintained or when the drainage system covers a more extensive area than a road culvert as defined in Item IX, on Page 44-13, Chapter 44 of this Manual. Some private drains can be privately maintained.

Smaller systems that are not private or transfer drains will either become part of the Grading, Building or Road Plans. Those systems on Road Plans must be within the road right-of-way and are to be maintained by the Department's Road Maintenance Division.

B. Conditions which require public maintenance of Private Drains

It is general County policy to require public maintenance of private drains when:

1. The drainage system receives off-site flows.
2. The drainage system drains a residential area.
3. Considerable annual maintenance is required to protect property.
4. The drainage system impounds debris.
5. When flow in the street exceeds the top of the curb.

Maintenance of the Private Drain by the property owner will be permitted when:

1. The drainage system drains one lot.
2. The property is to be used for commercial purposes.
3. Little annual maintenance is required to protect the property.

II. Eligibility for Transfer

Drainage facilities built by the private sector or a city can be transferred to the Flood Control District or into a Drainage Benefit Assessment Area (DBAA) for operation and maintenance as either a Private Drain or a Miscellaneous Transfer Drain (see Chapters 18 and 20, respectively). The standards for a Miscellaneous Transfer Drain are presented in Chapter 37.

A. Systems eligible for transfer to the Flood Control District

A drainage system will be eligible to be transferred to the Flood Control District if the following conditions are met:

1. It is designed and constructed in accordance with the Department's design criteria, standards, and good engineering practice. Facilities should be designed to minimize future maintenance costs.

2. It is a permanent solution to the drainage problem.

3. It has an adequate outlet deemed acceptable to the Department for conveying the anticipated flows. When the flow outlets into an unimproved swale, it must be shown to the satisfaction of the Department that the flows will be released in a manner that does not aggravate potential damage to adjacent downstream property owners.

4. Adequate right of way is provided.

5. The system is constructed under a permit and is inspected sufficiently to the satisfaction of the Department to verify that the system was built according to the approved plans.

B. Systems eligible for transfer into a DBAA

Systems not eligible for transfer to the Flood Control District may be accepted by the Department for maintenance if there is a Drainage Benefit Assessment Area established (see Chapter 19 of this Manual) and it is designed and constructed in accordance with Item A.

C. Systems Not Eligible for Transfer to the Department for Maintenance

Systems consisting of the following are not eligible for maintenance by the Department through the Flood Control District or a DBAA:

1. Road culverts - Those systems which only provide cross drainage for private roadways or for public streets in incorporated cities. (See Item I.A on Page 36-1 and Chapter 44 of this Manual.)

2. Drains outletting onto streets.

3. Interceptor, slope, and down drains normally constructed as shown on the grading plans.

4. Corrugated metal pipe systems except under conditions where rigid pipe is not practical, such as extremely steep slopes.

5. Packerhead concrete or concrete tamped pipe.

6. Systems located outside the boundaries of the Flood Control District (Los Angeles County areas north of Township 5 North and the Channel Islands and not within a DBAA).

D. Construction and Maintenance Requirements For Privately Maintained Systems

Drainage improvements to be privately maintained by others must meet minimum hydraulic and structural adequacy and must be designed and constructed in conformance with the "Standard Specifications for Public Works Construction", latest edition and be in conformance with the applicable design requirements described in Items III, IV and V of this Chapter.

If a privately maintained system is not properly maintained by the property owner, the property owner could be held liable for damage caused by lack of maintenance to adjacent property.

III. DESIGN CRITERIA

Most private drains consist of closed conduits, open channels and catch basins discussed below. However, private drains may consist of other types of facilities. The following chapters cover the design criteria for these facilities:

Chapter	
38	Dam Plans, Supporting Data and Inspections
39	Subdrain Plans and Supporting Data
40	Detention Basins and Supporting Data
41	Debris Basin Plans and Supporting Data
42	Debris Carrying Facilities
43	Retention Basin Plans and Supporting Data

Refer to the Flood control District Hydraulic Design Manual concerning the design of closed conduits, open channels, and catch basins (also refer to Section 4.1 - 0242 of the Department's Highway Design Manual). All facilities proposed to mitigate Zone A designated flood hazard areas based on the Flood Insurance Rate Maps (FIRM) shall also comply with the Federal Emergency Management Agency (FEMA) criteria and standards. (See Chapter 16 of this Manual for the procedures for satisfying FEMA and obtaining approval of the modification of FIRM maps and Chapter 55 of this Manual regarding FEMA policies and minimum standards.)

This item presents some of the common items of the specific Department and Flood Control District design criteria for future County maintained private drains. For more details refer to the Flood Control District Manuals such as the Hydraulic, Structural, Debris Dams and Basins and Hydrology. (See Chapter 50 of this Manual.) It is not the intention of this Manual to set design policy but to assist the designer to obtain quickly the information needed to submit as good a set of plans as possible.

A. Reinforced Concrete Pipe

1. General Design Criteria

The minimum diameter of main line conduits and laterals is 24 inches. When subject to debris inflow, the recommended minimum pipe diameter is 36 inches. The minimum diameter main line conveying flows from a debris basin is 36 inches. The minimum diameter for catch basin connector pipe is 18 inches. In the case where a catch basin is located in a cul-de-sac street with no secondary overflow (sump condition), the minimum connector pipe diameter is 24 inches. Connector pipes exceeding 100 feet in length are considered laterals and, therefore, must be a minimum of 24 inches in diameter. The minimum diameter conduit for use with velocity control rings is 42 inches.

The minimum radius allowed for horizontal curves in main lines and laterals are 22.5 feet for clear flow storm drains and the standard radius for debris-carrying systems is 90 feet. (A 45-foot radius curve may be allowed for a debris-carrying system under extremely difficult field conditions and only with prior Department approval.)

Connector pipe and lateral connections into the main line at an angle less than 90 degrees are preferred. If the flow from the lateral amounts to 10 percent or greater than that of the main lines flow, or its velocity is 20 feet-per-second (fps) or greater, an angled

connection less than 90 degrees is generally required (See the Department of Public Works' Hydraulic Design Manual, Page B-14).

If an angle point in the mainline or lateral cannot be avoided, a manhole may be required at the angle point. The angle point should not exceed 6 degrees unless approved by the Department.

Concrete collars for the pipe joints are required for grade breaks greater than 0.10 ft/ft. Vertical curves should be used for major grade changes in the pipe. The minimum slope allowed for mainlines and laterals is 0.001. The minimum slope allowed for connector pipes is 0.01. When a drain is located in a slope steeper than 5 horizontal to 1 vertical and the grade of the drain exceeds 0.33, provide anchors in accordance with APWA Standard Drawing No. 221, Pipe Anchors and Backfill Stabilizers. Slopes in excess of 0.33 should be avoided if possible due to the possibility that flow velocities will exceed the allowable limits of 40 fps.

2. Velocity Requirements

Storm drains subject to flow velocities 20 fps or greater must be manufactured with an additional 1/2-inch of concrete cover over the invert steel. Storm drains subject to flow velocities equal to or greater than 30 fps must be manufactured with an additional 1 inch of concrete cover over the invert steel.

Storm drains subject to flow velocities greater than 40 fps are to be avoided preferably by revising the pipe slopes. Otherwise, velocity control rings will be required. Velocity control rings may not be used for debris-carrying systems.

In addition to the velocity criteria, concrete cover over the invert steel reinforcement will be required for storm drains subject to debris inflows. (See Chapter 42, Debris-Carrying Facilities.) Flow velocities must be sufficient to prevent debris and sediment from collecting in the drain while meeting maximum velocity limitations.

3. Structural Criteria

The case or class of bedding to be used and the appropriate D-load chart reference must be shown on the drawings. The Structural Design Manual contains D-load charts for various special cases from Pages S-38 through S-70. (See Chapter 54 of this Manual.) In addition other structural design considerations are shown in this Manual. D-load rating is based on the 3-edge bearing test load placed on a pipe in pounds per lineal foot per foot of internal diameter. The Department accepts a D-load maximum defined as that load that will produce a crack 0.01 inch wide and 12 inches long and provided this crack does not represent failure and is not considered damaging to the pipe. When using D-load charts, it is important to note the conditions on which the charts are based. D-load calculations must be submitted for approval by the Department if depths of cover exceed those shown on the charts.

Refer to the Department's Structural Design Manual concerning railroad loading, jacking pipe and other special conditions.

Bedding is that area of soil, concrete, aggregate, or other material in which the pipe is cradled and directly affects the supporting strength of the pipe. If the D-Load Chart County Engineer Standard C-3 (b) is used in the design, then the County Engineer Standard D-54 must be utilized in the design of the bedding. If other D-loading charts are used, mainly from the Structural Design Manual, the bedding design in Standard Drawing 2-D177 on Page S-37 of that manual must be used.

Rubber-gasketed joints or elastomeric sealant shall be specified when the depth of fill, either above or below the conduit, varies to the extent that differential settlement in excess of maximum allowable pipe deflection can be expected. Whenever the depth of the fill exceeds 10 feet either below or above the conduit and/or there is a dead load differential of 1200 pounds per square feet on the conduit, the potential for differential settlement must be analyzed by a geotechnical engineer in accordance with the standards in Chapter 49 of this manual. It must be shown by the design engineer that the conduit will perform as intended after undergoing the anticipated differential settlement.

4. Manholes and Junction Structures

Maximum spacing between manholes shall be as follows:

a. Approximately 300 feet if the drain is 30 inches in diameter or less.

b. Approximately 400 feet if the drain is between 30 and 45 inches in diameter.

c. Approximately 500 feet if the drain is 45 inches in diameter or greater.

d. For box conduits, use spacing for box height equal to conduit diameter. Multibarrel box conduits shall include windows at the vicinity of the manholes to provide ease of access to the chambers. Under special or hazardous conditions, additional manholes may be required.

Manhole and junction structure requirements shall be primarily in accordance with the requirements in the Structural Design Manual. The type of manhole to be utilized is given on Page S-104. The description of the manhole structures are shown in Section D-2 of that Manual.

Manhole shafts 20 feet in depth or greater require a safety ledge per LACFCD Standard Drawing No. 2-D430. All structures exceeding this depth require a detailed structural design to account for additional drag forces and will be reviewed and approved by Design Division.

Special provisions are required for manholes at the top of steep slopes. This consists of a warning sign stenciled in the manhole shaft stating that the a steep grade begins downslope of the manhole.

Manholes located at the rear of residential lots, should be avoided where possible. If it is not possible to avoid locating the manhole at the rear of a residential lot, an unobstructed five-foot wide paved walkway to that manhole must be provided for access within an easement. (See Chapter 29 of this Manual for various methods for providing easements.)

5. Catch Basins

All catch basins and local depressions must be designed in accordance with Section D of the Department's Hydraulic and Road Design Manuals and the Standard Plans for Public Works construction.

Due to potential accidents associated with bicyclists riding over grates, a combination side opening grate-type catch basins should be avoided except for the following conditions when a street grade exceeds 4 percent, then a Catch Basin No. 301-0 (CB-301) must be used. (See Section D-32 on Page D-7 of the Hydraulic Design Manual.) Standard grate only type catch basins are not eligible for County maintenance due to their high incidence for plugging.

6. Corrugated Metal Pipe

Corrugated metal pipe is not acceptable for County maintenance unless approved by the Department for special circumstances.

7. Other Pipe Materials

The use of cast-in-place, asbestos cement, prestressed concrete, nonreinforced concrete and polyethylene plastic pipes are permitted only with special approval of the Department. The following standards have been established by the Department for asbestos cement and cast-in-place pipe.

a. Asbestos Cement Pipe

If asbestos cement pipe is allowed, refer to Section L, Structural Design Manual.

b. Cast-in-Place Pipe

If cast-in-place pipe is allowed, refer to Section M of the Structural Design Manual. Generally, a geotechnical engineering report from a geotechnical engineer is required to verify that conditions exist at the site to permit this type of construction (See Section M-2 of the Structural Design Manual).

The design criteria in Section M must be met. If it cannot be met, other design methods must be utilized.

B. Reinforced Concrete Box Conduits

Reinforced concrete box conduits shall be designed in accordance with Section G of the Structural Design Manual. Calculations must be submitted to verify the structural adequacy of the box.

When the box conduit may be subject to seawater, high velocities or extreme abrasion and scour, the Department will determine the additional concrete cover required over the invert steel reinforcement. Refer to Section G of the Structural Design Manual.

C. Open Channels

All open channels must meet the design requirements of both the Flood Control District's Structural and Hydraulic Design Manuals. (See Chapter 50 of this Manual.)

1. Rectangular Open Channels

All rectangular open channels must be designed in accordance with Section O of the Structural Design Manual. Calculations must be submitted to verify the structural adequacy of the channel.

All Flood Control District freeboard requirements are in Section C-4 of the Hydraulic Design Manual. However, higher freeboard distances may be required by FEMA for projects affecting Zone A designated flood prone areas or where hydraulic conditions indicate to the Department that higher freeboard is warranted to guarantee adequate protection.

2. Trapezoidal Open Channels

   All trapezoidal open channels must be designed in accordance with Section P of the Structural Design Manual. Calculations must be submitted to verify the structural adequacy of the channel. They must have a minimum bottom width of six (6) feet for maintenance purposes unless otherwise approved by Flood Maintenance Division.

   All Flood Control District freeboard requirements are in Section C-4 of the Hydraulic Design Manual. However, higher freeboard distances may be required by FEMA for projects affecting Zone A designated flood prone areas or where hydraulic conditions indicate to the Department that higher freeboard is warranted to guarantee adequate protection.

3. General Design Criteria

   Both rectangular and trapezoidal channels must meet the following criteria:

   a. Compound curves are not permitted, except for easement curves as described in Section C-3.2 of the Department's Hydraulic Design Manual.

   b. If piers are required at any crossings they must be designed in accordance with Section C-2.7 of the Hydraulic Design Manual. It is general policy that hydraulic analysis must include an allowance for debris accumulation of 1 foot on each side of piers in DPA Zones 5 through 11 and 2 feet on each side in DPA Zones 1 through 4. Pier noses are required for most channels conveying bulked flows.

   c. Channels subject to flow velocities equal to or greater than 10 fps must have a minimum of 1/2-inch additional concrete cover over the positive invert steel. When the channel may be subject to extreme impact or scour, the Department will determine the additional thickness and concrete strength required (See the Structural Design Manual for specific requirements).

   d. If the proposed work is within FEMA Zone "A", FEMA design criteria and standards may be higher and should be considered.

4. Structural Criteria

   All hydraulic structures must meet the requirements of the Structural Design Manual. The following are important details:

   a. A soils report must be submitted for review upon request and should include an analyses regarding mitigating geotechnical hazards such as rock and soils subject to expansion, compression, hydroconsolidation and rock and soils containing deleterious chemicals such as chlorides, sulfates, sulfides, albuminate that may cause adverse reactions to concrete and steel (see Chapter 49 of this Manual). If groundwater is present, a subdrainage system must be provided (see Chapter 39 of this Manual).

   b. All trapezoidal channels must be lined with a minimum of 6 inches of reinforced concrete slope lining and 8-inch minimum reinforced concrete channel bottom. Concrete shall be Portland cement concrete with a minimum ultimate compressive strength of 4,000 psi. Air-placed concrete may be used on the slope lining provided that necessary specifications from the Standard Specifications are used and labeled

on the plans. Where side slopes are steeper than 1.5:1 or the depth is greater than 4 feet, design calculations must be submitted with the plans.

c. Construction joint details must be shown on the plans. Transverse joint spacing shall not be less than 10 feet nor greater than 50 feet.

d. Cutoff walls must be used where there is a discontinuity of channel lining, such as a transition from a concrete lined channel to an earth channel.

e. Major bridges and channel crossings shown on a storm drain plan will be reviewed by the drainage plan checker (see Chapter 18), as it affects the system hydraulics. The location, span, and clearance will be reviewed and approved by Planning Division. The structural design will be reviewed and approved by the Structural Section of Design Division.

5. Access and Fencing Requirements for Channels

a. Pave all access roads with a minimum of 3 inches of asphalt concrete over a 4-inch crushed aggregate base. Provide 2-by-6 redwood headers along the unprotected edge of the access road paving. Concrete curbs can be used in lieu of the Redwood Headers.

b. The channels rights of way must be fenced and gates provided for access roads in accordance with Public Works Construction Standard Plan No. 600-0. Fencing should be located six inches inside the right of way easement. In addition, fencing on the walls of rectangular or trapezoidal channels must be provided in accordance with Public Works Construction Standard Plan No. 600-0. Concrete block walls may be used in lieu of right-of-way fencing if placed on the adjacent private property. Walls should be fully grouted and be designed in accordance with Department Standard Drawing No. D-65. (See Chapter 30 of this Manual.) If desired, a wall plan approved by the County or City Building and Safety Division may be substituted. Such walls are generally not be maintained by the Department.

c. Turnaround areas of not less than 40 feet by 40 feet, in addition to the access road width, are required if the access road exceeds 500 feet in length and dead ends. Hammerhead type turnaround areas are also acceptable.

d. Double-drive gates and commercial driveways are required at street crossings. Double-drive gates should be located a minimum of 25 feet from the street curb except in residential areas where the gates may be located along the property line.

e. Access roads on both sides of the channel will be required when the channel top width exceeds 29 feet.

D. Levees (Soft Bottom Channels)

Permanent levees meeting Department's design criteria and standards are an acceptable solution to eliminate flood hazards for some of the larger watercourses throughout the County.

The engineer should contact the Drainage and Grading Section to obtain requirements for levee access ramps. The design criteria for levees is discussed in detail in the Department's Hydraulic Design Manual. (See pages F-29 through F-37.)

E. Inlets and Outlets

Section B-4.8 on Page B-12 of the Hydraulic Design Manual contains the basic requirements for Inlet Structures. Section B-4.9 beginning on the same page contains the basic requirements for Outlet Structures. The following paragraphs present specific design details needed to construct satisfactory inlet and outlet structures:

Headwalls for inlets and outlets should extend 1 foot above the finished groundline. The inlet structure should consist of a headwall, wingwalls, and an inlet apron with a cut-off wall. The inlet structure wall height should conform to the water surface elevation upstream of the inlet plus freeboard and be adequate to protect both the fill over the drain and the embankments. Concrete thicknesses should be a minimum of eight inches with a double curtain of steel reinforcement.

All storm drain systems must have a suitable outlet. It is generally advised to leave storm run-off in its natural watercourse, and if discharging it into an unimproved watercourse, to discharge it at a velocity and concentration equal to or less than the original flow characteristics. Where hillside development is planned, and the drainage is to be conveyed down a slope to a natural watercourse, the drain must be extended to the bottom of the slope and the outlet appropriately located to minimize slope erosion and back scour of the outlet.

Outlet structures discharging into a natural watercourse shall include a headwall, wingwalls, outlet apron with a cut-off wall and grouted riprap to prevent erosion and scour damage. The depths of the cut-off wall, length, and thickness of riprap will depend on the quantity and velocity of discharge, the slope of downstream watercourse, and the type of soil prevalent in the area. Design proposals shall be reviewed and approved on a case-by-case basis.

Concrete thicknesses should be a minimum of eight inches with a double curtain of steel reinforcement.

Outlet structures with high discharge velocities that exceed the capability of the downstream drainage system require an impact-type energy dissipator. It is the designer's responsibility to demonstrate to the satisfaction of the Department that outlet flows will not adversely affect the downstream system. This includes demonstrating that the outlet with or without an energy dissipator will reduce velocities sufficiently to prevent erosion damage.

Design details of the impact structure can be found on the Department's Standards 2DED 1.1 through 1.4.

Outlets connecting into channels constructed by the Corps of Engineers are to be designed to Corps Standards. The U.S. Army Corps of Engineers' approval (requested by the Department) is required prior to Department approval of the storm drain plans.

Outlets connecting to trapezoidal channels with a pipe size 30 inches or larger in diameter, shall be discontinuous and independent of the channel sides.

Flapgated outlets into channels shall be recessed so that the gate in an open position does not protrude into the channel proper.

Protection barriers to prevent unauthorized entry must be provided at all inlets and outlets with one of the following methods:

1. Inlets

   a. For inlets with pipe diameters up to 48 inches or 48-inch-wide boxes, sloping-type trashracks per Standard Drawing 2-DTR 1.1-.2 are required.

   b. For inlets larger than 48 inches in diameter, a protection barrier must be provided. This barrier must be similar to Standard Drawing 2-D261 and modified to avoid the use of shear pins. Additional requirements for this protection barrier are under Outlets, Item 2 below.

   Details of the modifications must be shown on the plans. For proper functioning of the protection barrier, it should be installed in a reinforced concrete box section with dimensions as follows: width equal to pipe diameter, height equal to pipe diameter plus 1 foot, and length equal to the height. Reinforced concrete box details should be shown on the plans and a Transition Structure No. 1 specified to join the pipe to the box.

2. Outlets

   Protection barriers per Standard Drawing No. 2-D 261 shall be provided for pipe outlets where entrance of unauthorized personnel may present a hazard. The protection barrier for box outlets shall be similar to Standard Drawing No. 2-D 261, modified to avoid the use of shear pins. (See Item A-2 beginning on Page 36-4 for additional requirements for this type of barrier.)

F. Access and Fencing Requirements

Paved vehicular access should be provided to all inlets and most outlet structures. The roadway shall be at least 12 feet wide and paved with 3 inches of Asphaltic Cement (AC) over 4 inches of crushed aggregate base material as defined in the Standard Specifications for Public Works Construction. This requirement may be waived or modified as determined by the existing soil conditions and intended use of the road at the discretion of the Department. The minimum horizontal radius from centerline of the road for curves is 40 feet. The maximum longitudinal grade shall be fifteen (15) percent unless otherwise approved by the Department.

Two-by-six redwood headers shall be used for the edge of the pavement. Concrete curbs can be used in lieu of the Redwood Headers. Where the roadway will be utilized as a secondary overflow path, concrete curbs shall be provided or an inverted crown roadway section with a concrete low flow shall be constructed. Concrete steps will be required where access roads and ramps are not feasible or the height of an embankment exceeds 10 feet and the slope exceeds 25 percent (check with the Department prior to using steps). When concrete steps are placed along the toe of an embankment, a concreted gutter should be placed to prevent flows from the embankment eroding the subgrade. The steps shall be secured with a 4-foot wide walk gate per APWA Standard Plan No. 600 and sufficient fencing to minimize trespassing.

All structures shall have 4-foot-high fencing per Public Works Construction Standard (PWC) Plans No. 600. Guardrails per CALTRANS Standard Drawings Nos. A77C-1, A77C-2 and A77E with wood posts and object markers Type N-5 on CALTRANS Standard Plan A74A, are required where there are headwalls adjacent to roads and highways that do not have curbs and gutters. Refer to Chapter 44 of this Manual for additional requirements. The headwall fence for inlets with sloping-type trashracks shall include a 4-foot-wide walk gate centered over the storm drain headwall.

Fencing for embankments for debris basins, retention basins and detention basins shall be in accordance with APWA Standard Plan No. 600 and will be located at the top of slopes so that the adjacent property owners can maintain the slope surface which is their responsibility.

However, the Department will still require an easement for access and the right to make major repairs when necessary since the Department still has the responsibility for maintaining the integrity of the embankment. All retaining walls are to be in accordance with the latest APWA Standard Plan Nos. 610, 611, 613, 614, 615, 618, 619 and 620. The design parameters must be established by a geotechnical engineer and approved by the Geology and Soils Section. All slough walls are to be in accordance with the latest APWA Standard Plan No. 618. Block walls will be acceptable for fencing of easements for debris, retention and detention basin facilities and will be maintained by the Department. (See Chapters 40, 41, and 43 of this Manual.)

All masonry border walls may be in accordance with County Engineer Standard Plan No. D-65. (See Chapter 30 of this Manual.)

Wrought iron fencing will be acceptable along the rights-of-ways provided it is to be maintained by a homeowners association, and not the County. Fencing can be placed on the property line but not within the County easement or property. (See Chapter 56 of this Manual.)

G. Construction Safety

The plans must contain minimum safety requirements to protect the workers on the job and the public. A note referring to this document is listed in the required general notes (Note 6 Page 36-59).

IV. Other Agency Requirements

Agencies listed below have also established minimum storm drain requirements as follows:

A. Caltrans' Requirements

For projects that affect Caltrans property or facilities, Caltrans has prepared a "handout" entitled "Drainage Requirements and Design Criteria for Encroachment Permits". It is intended to furnish a permittee with an expanded outline of the hydraulic information required for a permit application and uniform methodology. (See Chapter 50 of this Manual regarding instructions about contacting Caltrans.) It is the responsibility of the applicant's design engineer to comply with all revisions or modifications to the plans deemed appropriate by Caltrans. (See Chapters 32, 34, and 44 of this Manual for detailed criteria.)

B. County Street and Highway Drainage Requirements

Refer to Chapter 44 of this Manual for these types of requirements.

C. Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is responsible for reducing flood hazard risks and establishing flood hazard insurance rates. (See Chapter 55 of this Manual.) This Agency issues Flood Insurance Rate Maps (FIRM's) for all areas of this County. A Letter of Map Revision (LOMR) is required to reduce or eliminate flood insurance rates. Check lists noting the requirements for a specific projects approval can be obtained fron Planning Division. This check list details types of required flow analysis along with minimum design criteria. The Department's Conditional Letter of Map Revision (CLOMR) must be in accordance with the sample in Chapter 14 of this Manual.

V. Specifications, Reports and Calculations

The Department of Public Works requires conformance to "Standard Specifications for Public Works Construction", latest edition, and District Additions and Amendments to the Standard Specifications for Public Works Construction (see Chapter 50 of this Manual). Supplemental specifications may be required for special facilities or items not covered by the Standard Specifications. Whenever reports and calculations are required to justify design criteria, the documents must have the name of the registered civil engineer who prepared the documents, the preparer's signature, and registration stamp or seal with the expiration date and the date signed. The criteria for geotechnical reports is presented in Chapter 49 of this Manual.

VI. Storm Drain Plan Composition

All storm drain plans must contain the information listed below. Unless otherwise noted, the information may be placed anywhere on the designated sheet. Sample private drain plans are on Pages 36-25 through 36-27. The samples illustrate the plan requirements in this Item.

A. All Sheets

1. Drawing Size and Layout

All sheets of the storm drain plans shall be of uniform size, 24 inches by 36 inches. Ink originals or duplicate tracings on cloth, croniflex, or Mylar, or other equally durable material, are required prior to final approval by the Department. Blue line drawings are adequate during plan review. No stick or paste-on inserts will be accepted (See Chapter 50 of this Manual regarding obtaining Standard Layouts).

The plan layout shall be in accordance with the reduced sample plans on Pages 36-25 through 36-27. The scale for the plan view shall be one inch equals 40 feet. The horizontal scale for the profile view shall be that of the plan view. The vertical scale for the profile view shall be one inch equals four feet or multiples thereof.

2. Required Information

The following information must be on all sheets:

a. A "Title Block" in the upper right hand corner.

b. An "Approved and Checked Block" in the lower right hand corner.

c. "Revisions Blocks" in the lower left hand corner.

d. A "Designer's Block" to the left of the "Approved and Checked Block".

e. Sheet Number in the lower right hand corner below the border line.

f. Space in the vicinity of the "Approved and Checked Block" for specific approvals by others.

3. Details of the Blocks

   a. Title Block

      The "Title Block" shall show the drain number and reference the tract or parcel map number of the project or the project title if not associated with a subdivision.

   b. Approved and Checked Block

      The "Approved and Checked Block" shall show the "DEPARTMENT OF PUBLIC WORKS", the Director's Name and Full Title in the upper block. For the Title Sheet only, there are two blocks. The middle block has "LAND DEVELOPMENT DIVISION" and below on one line "Approved by" and the date. This is signed by the Division Engineer (Assistant Deputy Director) and the date. The bottom block has one line "Checked by" and the date. This is usually signed by the Drainage and Grading Section Head. On the rest of the sheets, there is just one block with two lines. The upper line in smaller print states "LAND DEVELOPMENT DIVISION". The bottom line has "Checked by" and the date. This must have the same signature as on the title sheet under "Checked by".

   c. Designers Block

      The "Designers Block" shall contain the design firm's name address and telephone number. Below that the design engineer's printed name, signature, Civil Engineer Registration Number and date. In the vicinity of this block, space must be reserved for the stamp or seal of the design engineer. This must contain the registration number, license exploration date, engineer's name and type of registration in accordance with the requirements of Section 6764 of the California Business and Professions Code. (See Part 4 of this Manual.)

   d. Revision Block

      The "Revision Block" shall have at least four individual revision blocks as shown on the layout plans.

   e. Sheet Number

      Each sheet shall be numbered in sequence. The "Sheet Number Block" shall state "Sheet ___ of Sheet ___".

4. General Rules

   The following rules apply to the sheet layout.

   a. If the project is in a contract city, the plans must be modified as follows:

      1/ Replace "DEPARTMENT OF PUBLIC WORKS" with the name of the City.

      2/ Replace the "DIRECTOR OF PUBLIC WORKS" with "CITY ENGINEER".

      Do not abbreviate any title.

b. Do not use voided or x'ed areas on original plans. Lining out is acceptable only for general notes. All other erroneous material must be erased.

c. No stick or paste-on inserts will be accepted.

d. Item VII on Page 36-19 contain plan revision requirements.

B. Title Sheets

There must be at least one title sheet. For large projects several title sheets may be required. In that case the first sheet should contain all the required information listed below except the typical sections, details and hydraulic elements.

In addition to the requirements of Item A above, the title sheet shall contain the following:

1. Required Information

a. Reviewed Block - See Items A.2.b and A.3.b above for details.

b. Location Map and Index of Plans - See Item 2 below.

c. General Notes and Special Notes - See Item 3 below.

d. List of Standard Plans and Drawings - See Item 4 below.

e. Bench Mark Notes - See Item 5 below.

f. Hydraulic Elements - See Item 6 below.

g. Structural Sections and Details - See Item 7 below.

2. Location Map and Index Plans

Location maps must show all streets, alleys, rights-of-ways, railroads, existing storm drain system or flood control channels in the immediate vicinity with appropriate labels. The north arrow and scale pertinent to the location map must also be shown.

A sheet index must also be shown on the location map. This index must show the location of each plan and profile sheet by using arrow limits and sheet number.

3. General and Special Notes

Five classes of notes are generally shown on the title sheet where applicable: general, riprap, structural, cast-in-place pipe and channel wall breakouts. The following notes are standard for private drains. Only those notes that are applicable to the system should be listed on the plans.

a. General Notes

A complete set of required general notes are shown on Pages 36-28 through 36-30.

b. Riprap Notes

The standard riprap notes indicated below are to be used for normal installation conditions where discharge velocities are less than 10 feet per second. For velocities greater than 10 feet per second larger riprap or an impact-type energy dissipater will be required as determined by the flow and erosion potential down stream. The standard riprap notes are as follows:

1/ "Rock for grouted riprap shall be good quality broken concrete and/or river run rock. The smallest dimension shall not be less than 6 inches nor greater than 18 inches unless otherwise specified. The largest dimension shall not exceed 4 times the smallest dimension."

2/ "There shall be a grout bed of at least 2 inches beneath the first layer of rock. All the voids between the rocks shall be filled with grout. Maximum spacing between rocks shall be 2 inches."

3/ "Surface rocks shall be embedded from 1/2 to 2/3 their maximum dimension."

Permission must be obtained from the Department to modify these notes.

c. Structural Notes

Structural Notes are found on Pages 36-31 through 36-33. These notes superceed the notes in the Flood Control District Structural Design Manual. These notes are to be used with the Diagrams S100, S101 and S102 of this Structural Design Manual. (See Chapter 50 of this Manual regarding obtaining a copy.) These diagrams and notes are to be placed on the plans when applicable. The following is a guide for determining applicability:

1/ Item A of the Structural Notes contains general structural notes applicable to all designed structures (R.D. Box culverts, inlets, outlets, channels, etc...)

2/ Projects with single and double barrel R.C. Boxes are to use both Item A and B.

3/ Projects with only single barrel R.C. Boxes are to use Items A and C.

4/ Projects with only double barrel R.C. Boxes are to use Items A and D.

5/ Projects with only rectangular R.C. Channels are to use Items A and E.

6/ Projects which include concrete removal for modification of an existing structure are to use Items F, along with any the applicable combinations listed above using items (A), (B), (C), (D) or (E) of the Structural Notes.

Example: A project with a double barrel R.C. Box, a rectangular R.C. Channel and concrete removal would use all of the structural notes shown in Items A, D, E and F.

d. Cast-in-Pipe Notes

Cast-in-place Pipe Notes shall read as follows:

"All work done in accordance with the Los Angeles County Department of Public Works' Flood Control specifications for cast-in-place nonreinforced concrete pipe and the "Standard Specifications for Public Works Construction", latest edition".

4. List of Standard Plans and Drawings

A complete list of applicable standard plans and drawings must be provided. Only those standard plans and drawings specifically noted in this manual may be used in accordance with the provisions presented in this manual. Permission must be obtained from the Drainage and grading Section to utilize any standard plan or drawing not listed in this manual. It is Department policy to utilize standard plans and drawings for County Improvements from the following sources:

a. Standard Plans for Public Works Construction.

b. U.S. Army Corps of Engineers Standards.

c. Caltrans Standard Plans.

d. Flood Control District Standard Plans.

e. Road Department Standard Plans.

f. County Engineer Standard Plans.

It is current Department policy to eventually consolidate all of its standard plans and drawings noted in Items d.e. and f, above and to use the same measuring system as the "Standard Plans for Public Works Construction" (Item a above).

5. Bench Marks

The elevation shown on all road, sewer and storm drain plans must be the Sea Level Datum of 1929, as established by the U.S. Coast and Geodetic Survey. The bench mark note is to be shown within a flag as noted below:

	Name or Number	USC & G ELEV.	Book	Page
Line 1.	"H - 145"	726.142 feet	CEFB 852	92
	General Location			
Line 2.	City of South El Monte, 1st Avenue and 2nd Street, N.E. corner.			
	Specific Point			
Line 3.	Spk. in P. P. So. Cal. Ed. Co. No. 699454 or L & T 5' E of East end of C.R.			

6. Hydraulic Elements

   The hydraulic element table must show the design storm frequency, design flows (Qs), design velocities, maximum depths of flow, survey stationing and storm drain line designations.

7. Sections and Details
   The need for sections and details is site and structural specific. Sections and details shall be drawn to a scale permit sufficient detail for design review and construction.

C. Plan and Profile Sheets

The upper half of the plan and profile sheet consists of the profile portion and the lower half the plan portion. The following information must be on these sheets:

1. General Items

   a. Both the plan and profile views shall show the following:

      1/ Existing improvements such as pavement, curbs, gutters (including intersecting existing streets), driveways, drainage structures, utilities, railroad tracks, and buildings in or adjacent to the proposed storm drain facilities.

      2/ Approved design of any future or concurrent construction which may be pertinent to the storm drain design clearly located in plan and in profile view wherever advantageous to design clarification. (Check with Land Development and Design Divisions of the Department of Public Works, adjacent cities, U.S. Army Corps of Engineers and CALTRANS for information.)

      3/ References of any approved designs such as streets, sewers, and water mains.

   b. Name Abbreviations and Nomenclature

      1/ All street name abbreviations shall be in accordance with Item XIII.A.4.e on Page 44-21 of Chapter 44 of this Manual.

      2/ All Flood Control Facilities shall contain the name as designated in the Flood Control District Nomenclature Manual.

   c. Plan and Profile Alignment

      The plan and profile should be aligned wherever possible. Where they are not aligned, show the stations on both the plan and the profile views.

   d. Existing and Proposed Construction

      1/ Existing drainage facilities are to be shown in dashed lines with a label.

      2/ Proposed construction, including grading, streets, other utilities are to be shown in solid lines with a label.

      3/ Existing ground surfaces and other facilities are to be in dished lines.

      (Note this difference from Road, Sewer and Water plans.)

e. Checked Block

The checked block must be in accordance with Item A.3.b on Page 36-13.

f. Storm Drain Layout

Main line and lateral drains shall be laid out so that storm water flows run from right to left.

Stationing shall increase going upstream along the centerline of the storm drain. Storm drain stationing utilizing street stationing is not acceptable.

g. Specially Designed Structures

If any specially designed structures (not to a standard plan) are shown on the plans, the design stresses shall be shown on the drawings. (See the Flood Control District Manual and Chapter 50 of this Manual.) In addition structural details and notes shall be shown on the drawings including all member thicknesses, steel detail, steel clearances, etc.

h. Locating Utilities

It is not the responsibility of the County to check out the presence or absence of utilities nor the correctness of their location. For that reason, the following "General Note No. 4" must appear on all plans: "Approval of this plan by the County of Los Angeles does not constitute a representation as to the accuracy of the location, or the existence or non-existence of, any underground utility, pipe or structure within the limits of this project." (See Item B.3.a on Page 36-14 and on Page 36-28.)

2. Plan View

The plan view within this sheet shall contain the following information in addition to that noted in Item 1.a above:

a. The centerline of the drainage facility.

b. The type and size of the drainage facility.

c. If in street right-of-way, the street right of way boundaries, center line, pavement, parking area, etc.

d. If in an easement, the easement description and boundaries.

e. The location of the centerline of the drainage facility from the street center line or the easement boundaries.

f. Centerline Curve data and angle point data that includes a/ angle, b/ radius, c/ length, d/ tangent, e/ beginning station and f/ending station.

g. Topography as necessary for clarification of design, especially inlet, outlet and debris and ponded water influence areas.

h. All existing utilities and their location.

i. North arrow.

j. Catch basins to be built as part of the road plans along with a suitable note.

k. Manhole types and station location.

l. At inlets, the debris potential at that spot must be noted. If the inlet facility is a debris basin or a desilting type basin, the design capacity of the basin must be noted. (Refer to Chapters 41 and 42 of this Manual.)

3. Profile View

The profile view within this sheet shall contain the following information in addition to that noted in Item 1 above:

a. Storm Drain Type, size, grades and D-load.

b. If additional concrete cover over steel reinforcing is required, show by note the amount of cover required. (See Item III.A.2 on Page 36-4 for design criteria.) The note should read as follows: "Minimum concrete cover over the reinforcing steel in the invert = x.yz." The applicable increment of .5, 1, or 1.5 inches to the base cover of 0.75 or 1.25 inches must be recommended by the designer and accepted by the plan checker.

c. Elevations and station location of storm drain at grade breaks and at horizontal Beginning of Curves (BC) and End of Curves (EC).

d. Manhole types and station locations.

e. Design flows.

f. The hydraulic grade line, design reach flow ("Q"), velocity, and storm frequency.

g. A profile of the existing ground at the center line of construction as well as the proposed finish grade.

h. Connector pipes and catch basins.

VII. Improvement Plan Revisions

All revisions to signed improvement plans are to be submitted as red-line corrections on a blueprint for review prior to the originals being released to be revised.

All Revisions must be signed, stamped and dated by a registered professional civil engineer on the original plans.

The following original information is not to be erased but is to be marked as noted:

A. Minor Revisions, such as elevation changes, referrals, etc.:

"X" out the old information and show the new information next to the old with the revision symbol.

B. Moderate Revisions, such as realignment of material or small sections of mainline profiles, changing of details, etc.:

"X" out the old information and reference to the location where the new profile or detail may be found.

C. Major Revisions, such as realignment of mainline, major changes in plan views, relocation of large inlets and major grading changes, etc.:

Void entire sheet or sheets, and add new sheets to the plans. Reference the superceding of the old sheets by the new sheets on the title sheet.

To minimize the work necessary to prepare entire sheet revisions, a new mylar of the original sheet should be made to retain as the original sheet, and the corrections can be made on the original. Revisions must be signed, stamped and dated by a registered professional civil engineer.

VIII. Flood Map Revisions

Once the drainage system is completed, the Flood Map can be revised in accordance with the Procedures in Chapter 18 of this Manual. The conditions and criteria for map revisions can be obtained from Planning Division. Once completed, flood insurance rates are expected to be reduced.

IX. Rights of Way

All right of way designations and descriptions must conform to the Department's Manual, "Guidelines, Policies, and Procedures for Acquisition of offsite Property Interests for Subdivision Requirements". The required rights of way shall be shown and properly labeled on the plans (see instructions and samples on Pages 36-34 through 36-41). If off-site drainage facilities are required, refer to Item I-F, Chapter 30 of this Manual, for the requirements.

The following are important criteria in presenting proper rights of way descriptions in the preparation of a private drain:

A. Easements and Fee Title

Rights of way may be granted by dedication on the final subdivision map, or by separate instrument (see Chapter 29 of this Manual). The Department requires easements for underground conduits and prefers fee title for open channels and debris basins, but flood control easements are also acceptable (see Exhibit G of the Right of Way Manual described above, and on Pages 36-40 and 36-41). Joint use and overlapping easements are acceptable only under special circumstances and must be approved by the Department. The Department is to have paramount rights where possible.

B. Right of Way Requirements for Underground Conduit and Open Channels

1. For an underground conduit, the minimum width of easement will be 10 feet or the outside dimension of the conduit plus 6 feet (3 feet on each side), whichever is greater. The following table should be utilized:

Pipe Size (Inches)	Minimum R/W Width (feet)
42 and less	10
45 - 51	11
54 - 60	12
63 - 72	13
75 - 81	14

2. Access road easement shall have a minimum width of 15 feet, the actual width will be determined by its use. Inlet and outlet structures usually require additional right of

way to provide adequate working areas for operation and maintenance activities. Each case is site specific as to establishing needed working areas.

3. For open channels with a top channel width less than or equal to 29 feet, the right of way shall be the top width of the channel plus 17 feet (one 15-foot access road, plus 2 feet on the opposite side of the channel).

C. Locations

Covered storm drains should be placed within dedicated street where possible to avoid acquiring easements. Easements at rear of lots shall be allowed only when no other feasible location exists. The drain must be in one lot so the easement is to be wholly in one lot. Common use driveways serving private interests are not allowed.

D. Dedication on a Final Subdivision Map

The preferred method for dedicating storm drain easements to the District, County, or cities is by tract or parcel maps. The offer of dedication should be included in the owner's certificates and necessary acceptance and consent paragraphs should be included on the map title sheet. (See Chapter 29 of this Manual).

Right of way dedicated on these maps shall be in accordance with the instructions for various types of dedications to the Flood Control District on Pages 36-34 through 36-41.

E. Dedication by Separate Instrument

Easements can also be dedicated by separate instrument. The District or County shall not be billed, nor will it pay any fees for the acquisition of easements, partial releases, or condemnations.

Where dedicating directly to the Flood Control District by separate instrument, a deposit for document preparation costs must be deposited with Land Development Division along with the letter of request. Usually a part of the private drain deposit account is used. The submitted information must consist of title information including a verified legal description, traverse calculations, if needed, and a sketch of the easement (see Item G). From this information a legal document will be prepared by Mapping and Property Management Division.

F. Existing Flood Control District Right of Way

1. Existing District right of way shall be shown and labeled as directed by the Mapping and Property Management Division (Telephone (818) 458-3604).

2. Acquisitions, surplus property, and quitclaims of District right of way shall be processed as required by the Mapping and Property Management Division.

G. Easement Sketch Preparation

The easement sketch must contain north arrow, legal tie points, bearings, curve data, and distances of all courses surrounding the easement area.

The acceptable legal tie points must be of record information such as:

1. Center line street intersections.

2. Lot corners in a recorded subdivision.

3. Tract boundary monuments if identifiable.

4. Deed line (property line) if property identified by recordation data and a copy of the deed is attached to the sketch.

5. U.S.G.S. section corners if tied into the subdivision.

Any tie to a street station is to be considered a construction dimension and not a legal tie.

H. Easements on Storm Drain Plans

All easements shall be shown and described on the storm drain plans. The easements shall be described on the plans in the same manner as required for a subdivision map or easement document. Sufficient information must be shown on these plans so that a legal document describing the easement and its location can be prepared or verified by either Land Development or Mapping and Property Management Divisions.

I. Quitclaim Deeds

Whenever an existing easement is to be turned over by the existing owner to a new owner, a quitclaim deed is required. This is common when easements in a city's name or the County's name must be transferred to the Flood Control District.

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"D" LOADS – DITCH CONDUITS

TRUCK LOADING-CASE A_d BEDDING
3 EDGE BEARING TEST – 0.01 CRACK
(LIVE LOAD + DEAD LOAD) 1.25 SAFETY FACTOR
Trench width = outside diameter of pipe + 2 feet.

PIPE SIZE	DEPTH OF COVER-IN FEET															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
12	3750	1710	1510	1370	1330	1490	1670	1860	2340	2500	2600	2700	2790	2890	2940	3040
15	3360	1640	1520	1330	1300	1470	2000	2020	2130	2270	2370	2480	2550	2660	2740	2810
18	3040	1570	1460	1300	1280	1690	1780	1920	2010	2120	2240	2330	2420	2550	2610	2670
21	2790	1520	1410	1260	1210	1610	1690	1820	1930	2020	2110	2270	2320	2420	2500	2580
24	2550	1430	1360	1220	1180	1520	1620	1730	1850	1930	2040	2160	2250	2340	2430	2530
27	2380	1400	1360	1220	1160	1470	1560	1660	1760	1870	2020	2070	2190	2320	2380	2460
30	2220	1370	1340	1200	1140	1460	1560	1640	1730	1860	1970	2060	2150	2240	2330	2420
33	2100	1330	1320	1190	1120	1430	1510	1590	1700	1820	1920	2020	2120	2220	2300	2380
36	1990	1290	1310	1170	1110	1430	1470	1570	1670	1770	1890	1990	2070	2170	2300	2380
39	1880	1270	1280	1160	1100	1370	1440	1550	1650	1740	1860	1980	2060	2140	2240	2340
42	1790	1230	1250	1140	1090	1350	1440	1530	1630	1700	1810	1950	2030	2140	2200	2340
45	1720	1210	1240	1140	1080	1320	1420	1510	1590	1700	1800	1920	2030	2120	2200	2270
48	1660	1180	1210	1110	1070	1320	1390	1490	1580	1680	1790	1900	2000	2090	2180	2250
51	1600	1160	1200	1100	1060	1300	1360	1490	1560	1660	1770	1860	1990	2090	2180	2240
54	1550	1130	1180	1090	1060	1270	1380	1460	1560	1660	1760	1860	1970	2060	2150	2230
57	1460	1120	1160	1080	1050	1270	1360	1460	1560	1660	1760	1860	1940	2060	2130	2230
60	1410	1090	960	940	940	1250	1330	1460	1560	1640	1730	1820	1930	2020	2120	2220
63	1360	1060	950	920	930	1240	1330	1440	1540	1640	1720	1810	1920	2010	2120	2220
66	1320	1040	930	900	920	1230	1310	1430	1530	1640	1720	1810	1910	2010	2110	2220
69	1280	1020	910	890	920	1220	1310	1430	1520	1630	1720	1810	1910	2010	2100	2210
72	1240	1000	900	880	920	1210	1310	1420	1510	1620	1710	1810	1910	2010	2100	2200
75	1210	970	890	870	910	1190	1310	1410	1500	1620	1710	1800	1910	1990	2080	2170
78	1170	960	870	860	910	1180	1280	1400	1500	1600	1710	1800	1890	1990	2080	2170
81	1140	930	860	850	890	1150	1280	1400	1500	1590	1690	1800	1890	1990	2070	2170
84	1110	920	840	850	890	1150	1280	1380	1490	1580	1690	1790	1890	1990	2060	2160
90	1050	880	830	830	880	1150	1280	1370	1470	1580	1690	1780	1890	1960	2060	2160
96	990	860	800	820	860	1150	1250	1350	1450	1560	1670	1780	1890	1960	2060	2150
102	940	830	780	800	860	1150	1240	1350	1450	1550	1650	1770	1880	1950	2060	2140
108	900	800	770	790	850	1140	1230	1350	1450	1550	1650	1770	1870	1950	2040	2140
114	860	770	750	770	830	1110	1230	1320	1450	1550	1650	1760	1860	1950	2040	2140
120	820	750	740	770	830	1100	1230	1320	1430	1540	1650	1760	1860	1950	2040	2140

LOAD FACTOR
S_{Ad} = 1.25

Load factor is the ratio of supporting strength of given bedding condition to 3-edge bearing.

DEPARTMENT OF COUNTY ENGINEER - COUNTY OF LOS ANGELES
DESIGN DIVISION
APPROVED

DIVISION ENGINEER

COUNTY ENGINEER

COUNTY ENGINEER
C-3(a)

DATE: 5 - 7 - 64
REVISED TO: 1-10-75

STORM DRAIN PLANS IN
TRACT NO. 44328 P.D. NO. 2234

HYDRAULIC ELEMENT TABLE

LINE	FROM	TO	Q50	DIAM.	SO	SF	DH	VN
A	1+00.00	1+98.00	8.8	36"	0.0366	0.0015	0.61	10.0
A	1+98.00	3+20.00	8.8	36"	0.0000	0.0015	0.34	35.2 *
A	3+20.00	3+66.07	8.8	36"	0.0100	0.0015	0.07	6.8
B	2+19.32	2+37.42	116.4	48"	0.0136	0.0066	0.32	14.0
B	2+37.42	5+80.00	107.8	36"	0.0126	0.0262	—	15.3
B	5+80.00	7+00.00	107.8	36"	0.1420	0.0262	1.33	35.9 **
B	7+00.00	7+58.16	107.8	36"	0.0179	0.0262	—	15.1
B	7+58.16	7+90.00	79.5	36"	0.0178	0.0142	2.21	14.2
B	7+90.00	8+23.00	79.5	36"	0.0900	0.0142	1.33	26.7 *
B	8+23.00	9+89.09	76.0	36"	0.0900	0.0130	1.28	26.4 *
B	9+89.09	10+97.13	76.8	36"	0.0846	0.0112	1.34	25.8 *
B	10+97.13	11+60.00	59.9	36"	0.0868	0.0081	1.34	24.4 *
B	11+60.00	14+74.56	59.9	36"	0.0069	0.0081	—	8.5
B	14+74.56	15+10.10	41.5	27"	0.0690	0.0180	1.26	18.1
B	15+10.10	16+30.00	32.8	27"	0.0490	0.0112	1.10	17.1
B	16+10.00	22+88.00	32.8	27"	0.0156	0.0112	1.59	10.9
B	22+66.00	23+00.00	30.2	27"	0.0156	0.0095	1.56	10.8
B	23+00.00	23+21.66	30.2	27"	0.3141	0.0095	0.86	39.0 **
LAT B-1	1+00.00	1+47.00	34.5	27"	0.0618	0.0139	1.09	19.1
B-1	1+47.00	1+76.47	33.8	27"	0.0618	0.0112	1.03	18.6
LAT B-2	0+98.43	5+07.54	21.4	27"	0.0050	0.0040	1.00	6.5
B-2	5+07.54	5+79.28	19.0	24"	0.0130	0.0095	1.01	8.2
B-2	5+79.28	6+92.21	10.9	24"	0.0130	0.0025	0.91	7.9
B-3	6+92.21	7+41.60	8.8	18"	0.037	0.0033	0.56	10.0
B-3	1+00.00	1+10.00	2.0	24"	0.3000	0.0001	0.18	16.6
B-4	1+00.00	1+46.00	12.2	24"	0.2603	0.0029	0.46	33.9 *
B-5	1+00.00	1+05.00	3.6	24"	0.6492	0.0013	0.17	20.8 *

* PIPE IN THIS REACH SHALL HAVE AN ADDITIONAL 1/2" OF CONCRETE OVER PIPE INVERT STEEL.

**PIPE IN THIS REACH SHALL HAVE AN ADDITIONAL 1" OF CONCRETE OVER PIPE INVERT STEEL.

BENCH MARK:
BM CL 2891 ELEV. 1447.335
ROBM TAG S CB WHISPERING LEAVES OR 1FT W/O BCR @ SW COR SIERRA HWY & WHISPERING LEAVES OR 76 FT. W & 20 FT S/O C/L PVT
NEWHALL QUAD. 1983

GENERAL NOTES (CONT'D)

33. Where specified in the profile view, pipe in open trench shall be bedded according to Standard Drawing No. 7-0177, Case III, except bell and spigot pipe which shall be Case II bedding. "W" values shall be as specified on Standard Drawing No. 7-0177 for Case III bedding, Notes 2(a), 3(a) and 3(c). If the "W" value at the top of the pipe is exceeded, the bedding shall be modified and or pipe of additional strength shall be provided. The proposed modification shall be approved by the District.

36. THE CITY WILL NEED TO REVIEW AND APPROVE THOSE PORTIONS OF THIS P.D. WHICH ARE LOCATED IN THE CITY'S JURISDICTION AND ANY NECESSARY PERMITS FOR THOSE PORTIONS WILL BE ACQUIRED FROM THE CITY.

GENERAL NOTES (Cont'd)

22. ALL BACKFILL AND FILL AROUND CLOSED CONDUIT IN STREET RIGHTS-OF-WAY SHALL BE BROUGHT UP TO SUBGRADE OF THE ROAD OR TO 2 FEET ABOVE THE TOP OF THE CONDUIT, WHICHEVER IS LESS. THE DEPARTMENT SHALL INSPECT ALL BACKFILL AND FILL ABOVE AFOREMENTIONED LIMITS. APPLICATION FOR AN INSTANCE OF INSPECTION IN CONNECTION WITH THE WORK, SHALL BE MADE BY THE CONTRACTOR AT LEAST 24 HOURS BEFORE SUCH SERVICE IS REQUIRED. CALL (818) 458-3141.

23. ALL REINFORCED CONCRETE PIPE SHALL BE BEDDED IN ACCORDANCE WITH LOS ANGELES COUNTY ENGINEER CLASS AA BEDDING PER STANDARD DRAWING B-6 UNLESS OTHERWISE NOTED. THE REQUIRED MATERIAL PLACED FROM THE BOTTOM OF THE PIPE TO 1 FOOT OVER THE TOP OF THE PIPE SHALL BE SAND, CRUSHED AGGREGATE OR GRITE. THE CRUSHED AGGREGATE MATERIAL AND SHALL HAVE A SAND EQUIVALENT OF 25 OR GREATER. SEE ALSO NOTE 35.

24. ALL PIPE SHALL BE PLACED IN A TRENCH IN NATURAL GROUND UNDISTURBED COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE TOP OF PIPE ELEVATION, OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS. ALL BACK FILLS IN EARTHWORK SHALL BE COMPACTED TO THE DENSITY REQUIRED BY THE GRADING PLAN.

25. PIPE SHALL BE EMBEDDED 8 INCHES INTO ALL STRUCTURES INCLUDING INLET & HEADWALLS. UNLESS OTHERWISE SPECIFIED.

26. THE PIPE IS TO BE MANUFACTURED WITH AN ADDITIONAL CONCRETE THICKNESS OVER THE INVERT REINFORCEMENT AS SPECIFIED IN PROFILE ON THESE PLANS.

27. ELEVATIONS ARE IN FEET ABOVE M.S.L. O.S. DATUM OF 1929, UNLESS OTHERWISE INDICATED.

28. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHTS-OF-WAY SHALL BE CONSTRUCTED PER THE STREET PLANS.

29. THE CONTRACTOR SHALL PROVIDE FOR CONTINUOUSLY DRAINAGE AT ALL TIMES UNTIL THIS STORM DRAIN SYSTEM IS OPERABLE.

30. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE SECTIONS OF THE DEPARTMENT OF PUBLIC WORKS.

31. Existing utilities shall be maintained in place by the contractor, unless otherwise noted.

32. Where the utilities are indicated on the Drawings to be supported, said supports shall be in accordance with Standard Plan No. 224-0, unless otherwise indicated.

33. All openings resulting from the cutting or partial removal of existing culverts, pipes or similar structures shall be sealed with 8 inches of brick and mortar or 6 inches of concrete, unless otherwise shown.

34. Manholes No. 1,2,3, and 4, shall use the Standard Plans 030-0 for the "Frame and Cover" and 035-0 for the "Standard Drop Step".

LIST OF STANDARD PLANS

LOS ANGELES COUNTY FLOOD CONTROL DIST.

MANHOLE NO. 1 ..... 2 - D102
CONC. RINGS, REDUCER & PIPE FOR M.H. SHAFT ..... 2 - D107
JUNCTION STRUCTURE NO. 2 ..... 2 - D112
MANHOLE NO. 4 ..... 2 - D113
STANDARD A-613 REINFORCING BARS ..... 2 - D171
MANHOLE NO. 2 ..... 2 - D186
TRANSITION STRUCTURE NO. 3 ..... 2 - D188
JUNCTION STRUCTURE NO. 4 ..... 2 - D193
⚠ PIPE CONNECTIONS TO EXISTING STORM DRAINS ..... 2 - D190

TRASH RACK ..... 2 - DIRI-1-.2
PIPE BEDDING ..... 2 - D77

AMERICAN PUBLIC WORKS ASSOCIATION

CURB OPENING C.B. ..... 300 - 0
GRATING CATCH BASIN-ALLEY (TRANSVERSE) ..... 306 - 0
MONOLITHIC C.B. CONNECTION ..... 308 - 0
C.B. REINFORCEMENT ..... 309 - 0
C.B. FACE PLATE ASSEMBLY & PROTECTION BAR ..... 310 - 0
FRAME & GRATING FOR C.B. ..... 311 - 0
C.B. M.H. FRAME & COVER ..... 312 - 0
LOCAL DEPRESSION AT C.B. ..... 313 - 0
CHAIN LINK FENCE & RAILING ..... 600 - 0
STANDARD DROP STEP ..... 835 - 0
STANDARD P.C. M.H. FRAME AND COVER ..... 830 - 0
PIPE ANCHORS ..... 861 - 0

LOS ANGELES COUNTY ENGINEER

PIPE BEDDING ..... 0 - 54
MINIMUM PUBLIC SAFETY REQUIREMENTS ..... 8 - 2

GENERAL NOTES

1. A PERMIT SHALL BE OBTAINED FROM THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO CONCRETE PAVEMENT CONSTRUCTION WITHIN THE PUBLIC ROADWAY. CONTACT THE DEPARTMENT BY TELEPHONE AT (818)458-3141 TO OBTAIN AN INSPECTION AND CONNECTION PERMIT AND TO MAKE DEPOSIT FOR CONSTRUCTION INSPECTION.
2. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION DIVISION BY TELEPHONE, (626)458-3141 AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS CONTRACT. THE CONTRACTOR SHALL SUBMIT A REQUEST FOR CONSTRUCTION INSPECTION TO THE COUNTY DIVISION OF PUBLIC WORKS, 900 FINCHPORT AVE., AZUSA, CA. 91702 AT LEAST 24 HOURS BEFORE STARTING WORK UNDER THIS CONTRACT. COPIES OF ALL PERMITS HAVE BEEN FILED WITH THE DIVISION OF PUBLIC WORKS PRIOR TO SUBMITTING THE DEPOSIT.
3. THIS STORM DRAIN WILL NOT BE ACCEPTED FOR MAINTENANCE UNTIL THE ASPHALT HAVE BEEN RAKED, HARROWED BROUGHT TO GRADE AND THE STREET IS CLEANED TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.
4. APPROVAL OF THIS PLAN BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION TO THE OCCUPANT OF THE LOCATION, OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY. PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL UTILITIES.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (BLUE EDITION), INCLUDING SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DIRECTOR OF PUBLIC WORKS.
6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10. 4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS.
7. THE CONTRACTOR SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON LOS ANGELES COUNTY CONSTRUCTION STANDARD S-2.
8. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO THE CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
9. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE A 1/2" CLEARANCE UNLESS OTHERWISE SPECIFIED.
10. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL, PER A-S-T.M. A-615 GRADE 60.
11. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE".
12. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTERLINE OF STEEL UNLESS OTHERWISE NOTED.
13. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 36 BAR DIAMETERS OR 18", WHICHEVER IS GREATER.
14. NO CONCRETE SHALL BE PLACED WHILE THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.
15. ALL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 3250 p.s.i. UNLESS OTHERWISE NOTED.
16. ALL CONSTRUCTION JOINTS IN THE FOOTING OF BLANK AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
17. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4" CHAMFER.
18. UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTER LINE OF CONSTRUCTION.
19. THE INSPECTOR MAY HAVE THE OPTION TO REQUIRE CONCRETE BACKFILL DURING CONSTRUCTION WHEN THE PIPE WAS LESS THAN ONE FOOT OF COVER AND IS SUBJECTED TO HEAVY EQUIPMENT TRAFFIC. CONCRETE BACKFILL SHALL CONSIST OF 1-SACK MIX. PORTLAND CEMENT CONCRETE PLACED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 6 INCHES OVER THE TOP OF THE PIPE.
20. ALL BACKFILLS AND FILLS TO BE USED AS SUBGRADE SHALL BE COMPACTED TO A RELATIVE DENSITY OF 90% UNLESS OTHERWISE SPECIFIED.
21. A SOILS ENGINEER SHALL CERTIFY THAT ALL FILLS AND BACKFILLS OVER UNDERGROUND STORM DRAINS OUTSIDE OF THE PUBLIC WAY HAVE BEEN COMPACTED OR CONSOLIDATED TO A 90% DENSITY. THIS CERTIFICATION SHALL BE SUBMITTED TO THE DIRECTOR OF THE PUBLIC WORKS PRIOR TO THE ACCEPTANCE OF THE WORK BY THE COUNTY.

RIPRAP NOTES

1. ROCKS FOR GROUTED RIPRAP SHALL BE GOOD QUALITY BROKEN CONCRETE AND/OR RIVER RUN ROCK. THE SMALLEST DIMENSION SHALL EXCEED 2 INCHES AND THE LARGEST DIMENSION SHALL NOT EXCEED 18 INCHES. THE LARGEST DIMENSION SHALL NOT EXCEED 4 TIMES THE SMALLEST DIMENSION.
2. THERE SHALL BE A GROUT BED OF AT LEAST 2 INCHES BENEATH THE FIRST LAYER OF ROCK. ALL THE VOIDS BETWEEN THE ROCKS SHALL BE FILLED WITH GROUT. MAXIMUM SPACING BETWEEN ROCKS SHALL BE 3 INCHES.
3. SURFACE ROCKS SHALL BE EMBEDDED FROM 1/3 TO 2/3 OF THEIR MAXIMUM DIMENSION.

NOTE: CONCRETE MAY BE SUBSTITUTED FOR THE GROUT.

PRIVATE ENGINEERS NOTICE TO CONTRACTORS.

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THIS MAP.

THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES NOT IN RECORD OR NOT SHOWN ON THIS DRAWING.

Frederick Turner 11/1/89
REGISTERED CIVIL ENGINEER NO. 24082
BY AUTHORITY EXPIRES 9-30-90

RECEIVED
NOV 06 1989
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LAND DEV. DIV.

VICINITY MAP
NTS

KEY MAP
SCALE: 1" = 200'

NO.	REVISION	REVISED BY	APPROVED BY	DATE
⚠	ADD STD. 2-0190 TO LIST	[illegible]	[illegible]	11/1/89

CP Lange ENGINEERS
CIVIL ENGINEERING LAND SURVEYING LAND PLANNING
840-K W. 9TH ST. • UPLAND, CA. 91786 • (714) 946-9818
SIGNATURE [signature] 11/1/89 REGISTERED CIVIL ENGINEER
BY AUTHORITY EXPIRES 9-30-90

COUNTY OF LOS ANGELES, CALIFORNIA
THOMAS A. TIDEMANSON DIRECTOR OF PUBLIC WORKS

LAND DEVELOPMENT DIVISION
APPROVED BY: [signature] DATE: 11/01/89
ASSISTANT DEPUTY DIRECTOR
CHECKED BY: [signature] DATE: 11/01/89
OFFICE OF DIRECTOR OF PUBLIC WORKS

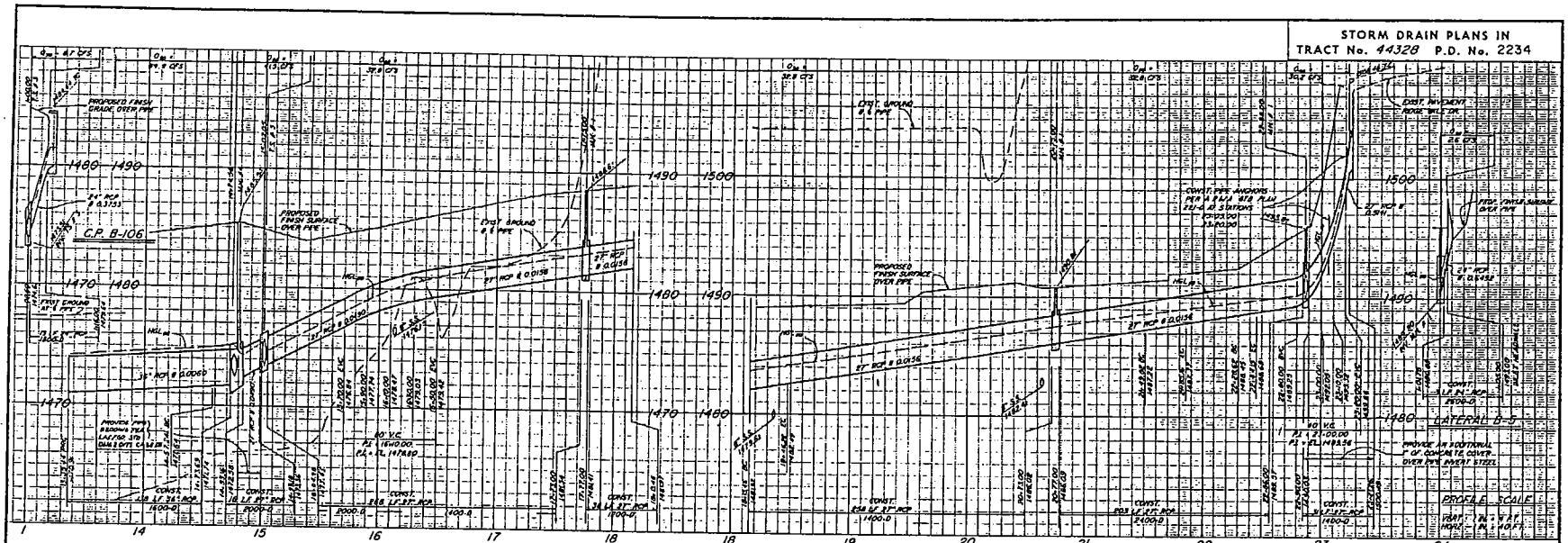
SHT 1 OF 6 SHTS

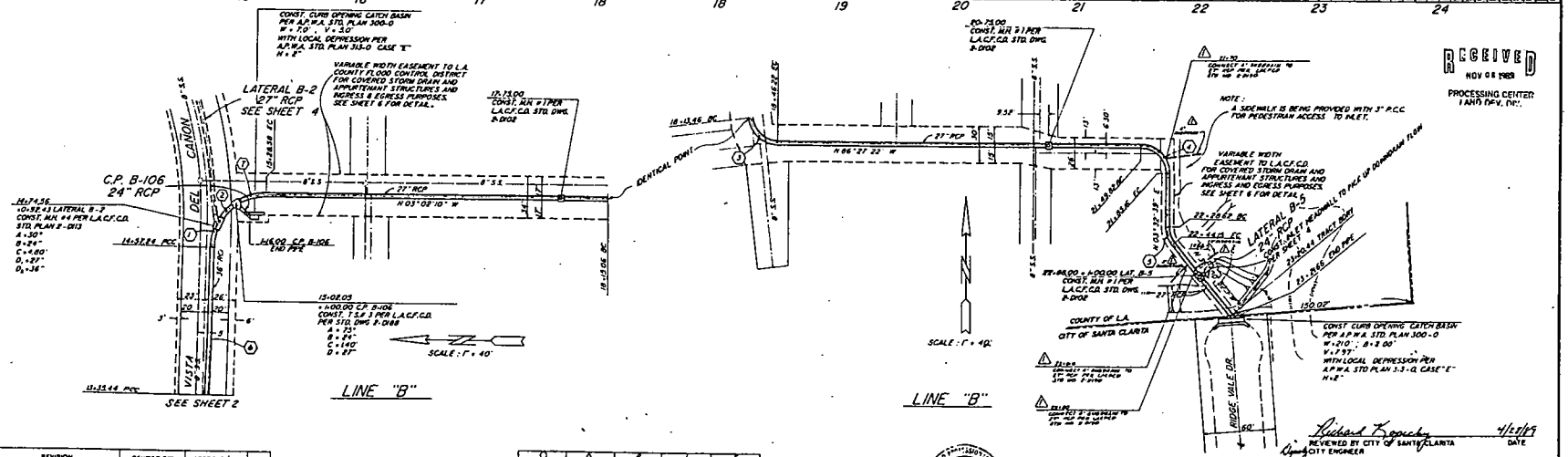
07/87

36-25

43-F350.1-6

STORM DRAIN PLANS IN
TRACT No. 44328 P.D. No. 2234





RECEIVED
NOV 08 1989
PROCESSING CENTER
LAND DEV. DIV.

NO	REVISION	REVIEWED BY	APPROVED BY	DATE
1	PER LETTER DATED 10-30-89			11/1/89

	Δ	R	L	T
①	90°00'00"	25.00'	39.27'	25.00'
②	15°00'00"	25.00'	6.73'	3.38'
③	83°28'18"	72.50'	105.63'	65.78'
④	90°00'00"	22.50'	35.34'	22.50'
⑤	15°21'01"	72.50'	19.43'	9.78'
⑥	5°46'05"	594.00'	59.81'	29.93'
⑦	33°46'31"	45.00'	26.53'	13.66'

Richard Beaudry 4/20/89
REVIEWED BY CITY OF SANTA CLARITA DATE
City ENGINEER

C. P. LANGE ENGINEERS
640-K W. 9TH ST.
UPLAND, CA 91786
(714) 946-9393
SIGNATURE: [signature] R.C.E. NO. 29012
MY AUTHORITY EXPIRES 3-31-90

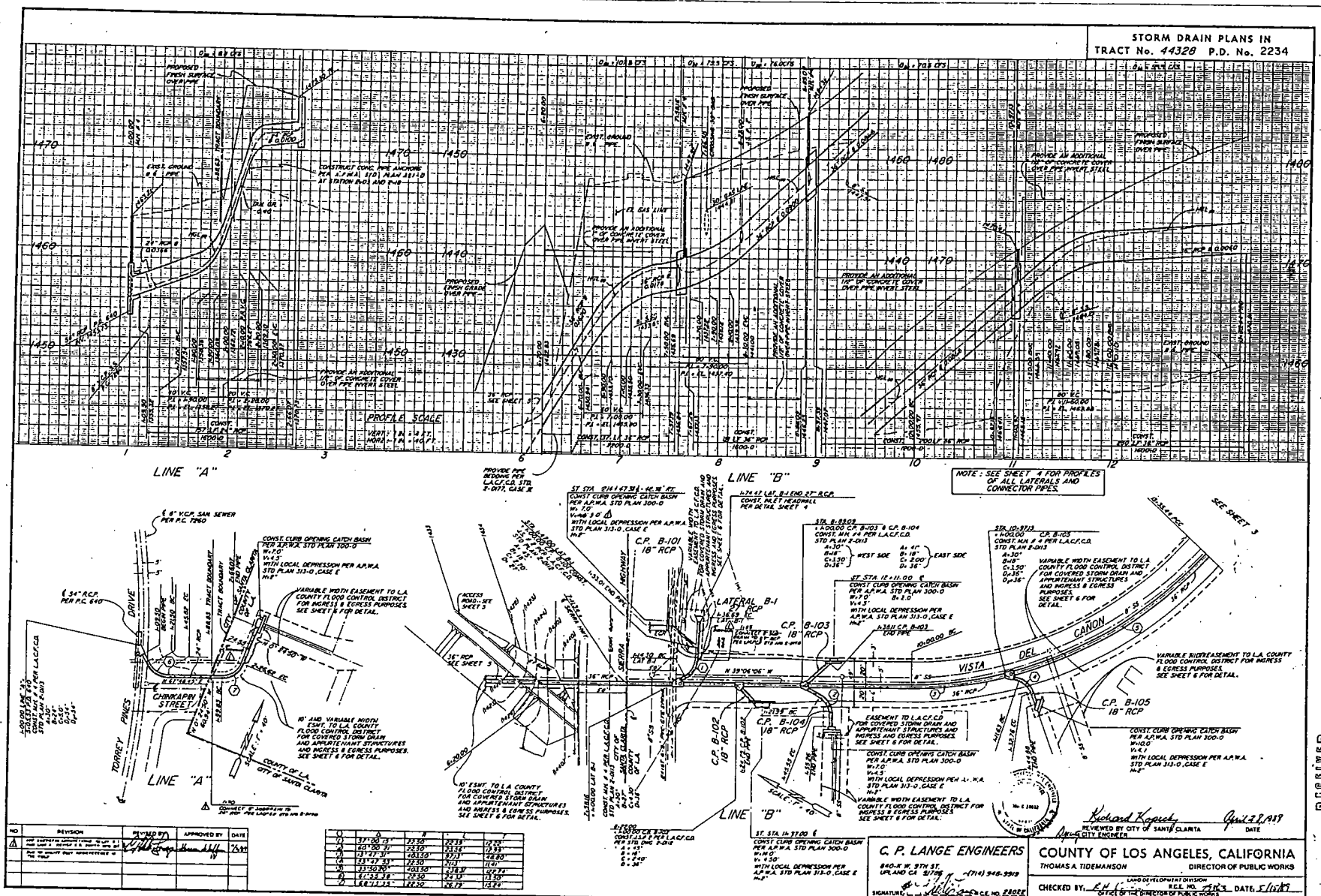
COUNTY OF LOS ANGELES, CALIFORNIA
THOMAS A. TIDEMANSON DIRECTOR OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
CHECKED BY: R.H.V. R.C.E. NO. 25163 DATE: 3/15/89
OFFICE OF THE DIRECTOR OF PUBLIC WORKS

SHT 3 OF 6 SHTS

24-26

36-27

STORM DRAIN PLANS IN
TRACT No. 44328 P.D. No. 2234



NO	REVISION	REVISED BY	APPROVED BY	DATE
1	ADD EASEMENT TO L.A.C.F.C.D. FOR COVERED STORM DRAIN AND APPURTENANT STRUCTURES AND INGRESS & EGRESS PURPOSES AT TRACT BOUNDARY			
2	ADD 10' COUNTY FLOOD MAINTENANCE R/W			

	Δ	R	L	T
1	37°00'21"	23.50	62.39	32.29
2	60°00'31"	23.50	33.58	17.93
3	43°47'31"	40.50	30.97	16.20
4	83°47'33"	22.50	31.13	19.41
5	33°50'20"	401.50	236.97	121.96
6	61°53'38"	23.50	24.25	13.39
7	68°11'55"	22.50	26.79	15.24

C. P. LANGE ENGINEERS
840-K W. 9TH ST.
UPLAND CA 91786 (714) 946-9919
SIGNATURE: [illegible] R.C.E. NO. 28006

COUNTY OF LOS ANGELES, CALIFORNIA
THOMAS A. TIDEMANSON DIRECTOR OF PUBLIC WORKS
CHECKED BY: E.H. LAND DEVELOPMENT DIVISION
RCE NO. 7313 DATE: 5/15/89
OFFICE OF THE DIRECTOR OF PUBLIC WORKS

Richard Kapusta April 28, 1989
REVIEWED BY CITY OF SANTA CLARITA CITY ENGINEER DATE

BY AUTHORITY EXPIRES 6-30-90

SHT 2 OF 6 SHTS

RECEIVED NOV 06 1989 PROCESSING CENTER LAND DEV. DIV.

*7297

PRIVATE DRAIN (PD'S)
GENERAL NOTES

1. A permit shall be obtained and a deposit paid to the Department of Public works at the Permit Counter, 900 South Fremont Avenue 8th Floor, Alhambra at least 72 hours prior to starting work under this contract. Copies of all other required permits, such as Flood Control District and Road Excavation, must be filed with the permit application.

2. When work is within a contract city, the contractor must contact the Director of Public Works of that City to determine the location to pay the inspection deposit.

3. The Contractor shall contact the district office listed on the "application for Storm Drain Construction Inspection Form I" to arrange for an acceptable construction start date.

4. Approval of this plan by the County of Los Angeles does not constitute a representation as to the accuracy of the location, or the existence or nonexistence of any underground utility, pipe or structure within the limits of this project. This note applies to all sheets.

5. All work shall be in accordance with the latest adopted edition of the "Standard Specifications for Public Works Construction, " including supplements and shall be prosecuted only in the presence of the Director of Public Works.

6. The contractor's attention is directed to Section 7-10.4.1 of the Standard Specifications for Public Works Construction in regard to safety orders and shall conform to the "Minimum Public Safety Requirements" as shown on Los Angeles County Engineer Standard S-2 (See Pages 36-49 for a copy).

7. Elevations are in feet above U.S.C. & G.S. Mean Sea Level Datum of 1929, unless otherwise indicated.

8. No concrete shall be placed until the forms and reinforcing steel have been placed, inspected and approved.

9. All structural concrete shall be portland cement concrete with an ultimate 28 day compressive strength of 3250 p.s.i unless otherwise noted.

10. Transverse reinforcement and transverse joints shall be placed at right angles (or radial) to the conduit center line except as otherwise shown on the drawings.

11. All steel adjacent to face of concrete shall have 2 inch clearance unless otherwise specified.

12. Reinforcement shall be deformed bars of intermediate grade steel per A.S.T.M. A-615-Grade 60.

13. All bar bends and hooks shall conform to the American Concrete Institute "Manual of Standard Practice".

14. Dimensions from face of concrete to steel are to center line of steel unless otherwise noted.

15. All steel that is to be continuous shall have a minimum lap of 30 bar diameters or 18" whichever is greater.

16. All construction joints in the footing of slabs and walls shall be in the same plane. No staggering of joints will be permitted.

17. All exposed edges shall be finished with a 3/4" chamfer.

18. Unless otherwise shown, concrete dimensions shall be measured vertically or horizontally and parallel or at right angles (or radial) to the center line of construction.

19. Concrete backfill is required when the pipe has less than one foot of cover. The concrete backfill shall consist of 1:3:5 mix, portland cement concrete poured from wall to wall of trench and from bottom of trench to a minimum of 4 inches over the top of the pipe.

20. All pipes shall be placed in a trench in natural ground and/or compacted fill. The ground level before the trenching shall be at least 3 feet above the top of the pipe elevation, or at finish surface elevation, whichever is less.

21. All backfill and fills outside of street right of way shall be compacted to 90% of maximum density as determined by ASTM Soil Compaction Test D 1557-78 Method "D" unless otherwise specified. This shall be certified by a geotechnical engineer. This certification shall be submitted to the Director of Public works prior to acceptance of the work by the County.

22. All backfill and fills within street right of way shall be compacted in accordance with Section 306-1.3.4 of the Standard Specifications unless otherwise noted and inspected by the Department. Contractor shall notify the inspector at least 24 hours in advance for soil testing as required by the inspector.

23. Pipe bedding shall be:

    In accordance with Los Angeles County Engineer Case Ad Bedding per Standard Drawing D-54 unless otherwise noted. The bedding material placed from the bottom of the pipe to 1 foot over the top of the pipe shall be sand, crushed aggregate, or native free-draining granular material and shall have a sand equivalent of 20 or greater.

    OR

    According to Standard Drawing No. 2-D177, Case III, except bell and spigot pipe which shall be Case II bedding, unless otherwise shown. "W" values shall be as specified on Standard Drawing No. 2 -D177 for Case III bedding, Notes 3 (a), 3 (b), and 3 (c). If the "W" value at the top of the pipe is exceeded, the bedding shall be modified, and/or pipe of additional strength shall be provided. The proposed modification shall be approved by the Department.

24. Pipe shall be embedded 5 inches into all structures including inlet and outlet headwalls, unless otherwise specified.

25. "Unless otherwise specified in the profile on these plans, the pipe shall be manufactured with a minimum concrete cover over the steel in the invert of 0.75 inches for RCP up to 96 inches in diameter and 1.25 inches for pipe greater than 96 inches in diameter".

26. All catch basins within the dedicated street right-of-way shall be constructed per the street plans.

27. The contractor shall provide to the satisfaction of the Director of Public Works a system for contributory drainage to be operable at all times until this storm drain system is accepted for maintenance. This may have to have to be designed by a Civil Engineer.

28. All references on this plan to the County Engineer, Road Department, or Flood Control District shall apply to the appropriate elements of the Department of Public Works.

29. Existing utilities shall be maintained in place by the contractor, unless otherwise noted.

30. Where the utilities are indicated on the Drawings to be supported, said supports shall be in accordance with Standard Plans for Public Works Construction No. 224, unless otherwise indicated.

31. All openings resulting from the cutting or partial removal of existing culverts, pipes or similar structures shall be sealed with 8 inches of Brick and Mortar or 6 inches of concrete, unless otherwise shown.

32. Manholes no. 1,2,3, and 4, shall use the Standard Plans for Public Works Construction No. 630 for the "Frame and Cover" and No. 635 for the "Standard Drop Step".

33. This storm drain will not be accepted for maintenance until the streets have been paved, manholes brought to grade and the system cleaned to satisfaction of the Director of Public Works.

34. The latest revised standard plan or drawing shall be used unless otherwise specifiedly noted.

35. An NPDES permit from the Regional Water Quality Control Board is required before any discharge of non-storm water into the storm drain is allowed.

STRUCTURAL NOTES

A. General

1. Dimensions from face of concrete to steel are to center of bar, unless otherwise shown.

2. Concrete dimensions shall be measured horizontally or vertically of the profile, and parallel to or at right angles (or radially) to center line of conduit on the plan except as otherwise shown.

3. All bar bends and hooks shall conform to the American Concrete Institute's "Building Code Requirements for Reinforced Concrete," Latest Edition, Sections 7.1 and 7.2.

4. Placing of reinforcement shall conform to the American Concrete Institute's "Building Code Requirements for Reinforced Concrete," Latest Edition, Section 7.5.

5. Unless otherwise shown on the drawings, transverse joint keyways (in slabs and walls), shall be placed at the end of each pour, but the spacing thereof shall not exceed 50 feet or be less than 10 feet. All construction joints in bottom slab, top slab, and wall, shall be in the same plane and normal or radial to the centerline of construction. No staggering of joints shall be permitted.

6. Transverse reinforcing steel shall terminate one and one-half inches from the concrete surfaces unless otherwise shown on the structural details.

7. Exposed edges of concrete members shall be rounded or beveled.

8. No splices in transverse steel reinforcement shall be permitted other than shown on the drawings without approval of the engineer. No more than 2 splices shall be permitted in any longitudinal bar between transverse joints. Splices shall be staggered.

9. Longitudinal steel shall be lapped 20 bar diameters at splices. Transverse steel shall be lapped 30 bar diameters at splices.

B. Single R.C. Box and Double R.C. Box

1. Transverse construction joints shall not be placed within 30 inches of manhole or junction structure openings.

2. Longitudinal steel shall be continuous and extend through all construction joints.

3. In all sections, C and C2 bars shall be lapped. The vertical length of C and C2 bars has been calculated for a 4-inch starter wall. If the height of the starter wall is varied, the vertical length of C and C2 bars shall be varied correspondingly so as to maintain a 30-bar-diameter lap between the two bars. The laps shall be based on the smaller bar.

4. Concrete quantities are based on a six-by-six inch fillet and the steel quantities do not include any optional splices.

5. If wall thickness is six inches, reinforcement shall be placed at the center of the wall.

6. The design of box sections identified by a numerical value only is based on a total width of trench equal to the outside width of the conduit plus 3 feet. When the cover is equal to 10 feet or less, the trench width is unrestricted. When the cover is greater than 10 feet

and the trench width is greater than the outside width of the conduit plus 3 feet for a width in excess of 10 feet, an alternate section shall be used as indicated below:

a. When the depth of cover is less than 18 feet, sections labled with suffix "B" shall be used in the drawings and with submitted calculations.

b. When the depth of cover is greater than 18 feet, and:

1/ The trench width is less than the outside width of the conduit plus 6 feet, sections labled suffix "A" shall be used in the drawings and with submitted calculations.

2/ The trench width is greater than the outside width of conduit plus 6 feet, sections labled suffix "B" shall be used in the drawings and with submitted calculations.

C. Single R.C Box (Diagram S-100)

1. Unless otherwise shown on the details, in curved sections transverse bars shall be placed radially. The spacing of straight transverse bars in top and bottom slabs shall be measured at the centerline of construction. The spacing of straight bars and L-bars in walls shall be measured between the vertical legs of bars.

2. D-bars may be spliced 20 bar diameters at the lower longitudinal construction joint, at contractor's option.

3. At the beginning and ending of all pours, a curtain of reinforcement, composed of B, C, C2, D, F, G, and H bars, shall be placed three inches from the transverse construction joint.

D. Double R.C. Box (Diagram S-101)

1. Unless otherwise shown on the details, in curved sections transverse bars shall be placed radially. Straight transverse bars in top and bottom slabs shall be spaced as shown on the typical sections. Spacing shall be at the centerline of the barrel on the outside of the curve for double barrel boxes. Straight bars and L-bars in walls shall be spaced as shown on the typical sections with the spacing measured between the vertical legs of bars.

2. The vertical wall steel in interior walls and in the interior face of exterior walls may be spliced at the construction joint at the base of the wall. The splices may be 20 bar diameters in length, at contractors option.

3. At the beginning and ending of all pours, a curtain of reinforcement composed of B, C, C2, D, CW, F, G and H bars shall be placed three inches from the transverse construction joint.

E. R.C. Rectangular Channel (Diagram S-102)

1. Transverse construction joints shall not be placed within 30 inches of inlets.

2. Transverse joints shall be placed at the junction of rectangular open channel sections with closed conduit sections. The joint shall not be keyed and shall have a three-eights-inch of expansion joint material in walls and invert.

3. All rectangular open channel walls shall be fenced in accordance with the latest revision of APWA Standard Plan No. 600 except as otherwise shown on the drawings.

4. Unless otherwise shown on the drawings in curved sections, the maximum spacing of bars shall not exceed that shown on the typical sections. Steel shall be placed radially from the maximum spacing.

5. At the beginning and ending of all pours, a complete curtain of reinforcement composed of B1, B4, and B7 bars shall be placed three inches from the transverse construction joint.

6. Longitudinal steel shall terminate two inches from transverse construction joints.

F. Concrete Removal Notes

a. Where a section of an existing structure is to be separated from a new structure, and the reinforcement is to be cut at the point of separation, the contractor shall sawcut through the wall with an approved concrete saw. Any saw cuts or irregularities in the surface of the remaining wall or joint shall be filled with an epoxy grout mixture to obtain a smooth plane surface. The reinforcing steel exposed by concrete removal shall be burned off one (1) inch below the surface of the remaining concrete and the resulting voids shall be patches with epoxy adhesive. Epoxy shall be a commercial quality two-component mixture, specially manufactured for the intended purpose, and be applied in accordance with the manufacturer's directions. A one-half inch thick premolded expansion joint material shall be used to separate the faces of the existing and new wall.

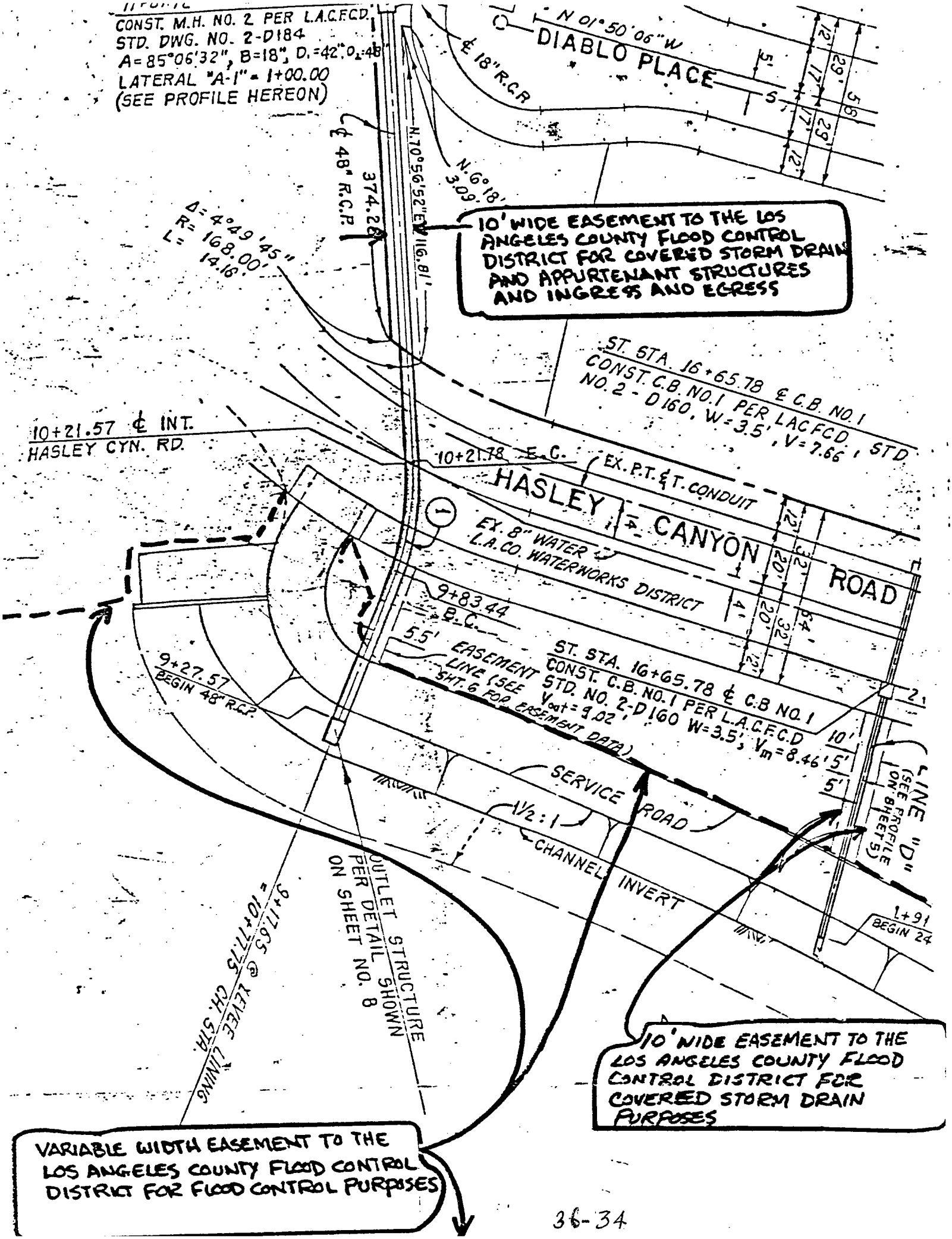
b. Where reinforcement is required to extend through the new joint, concrete shall be removed in the following sequence.

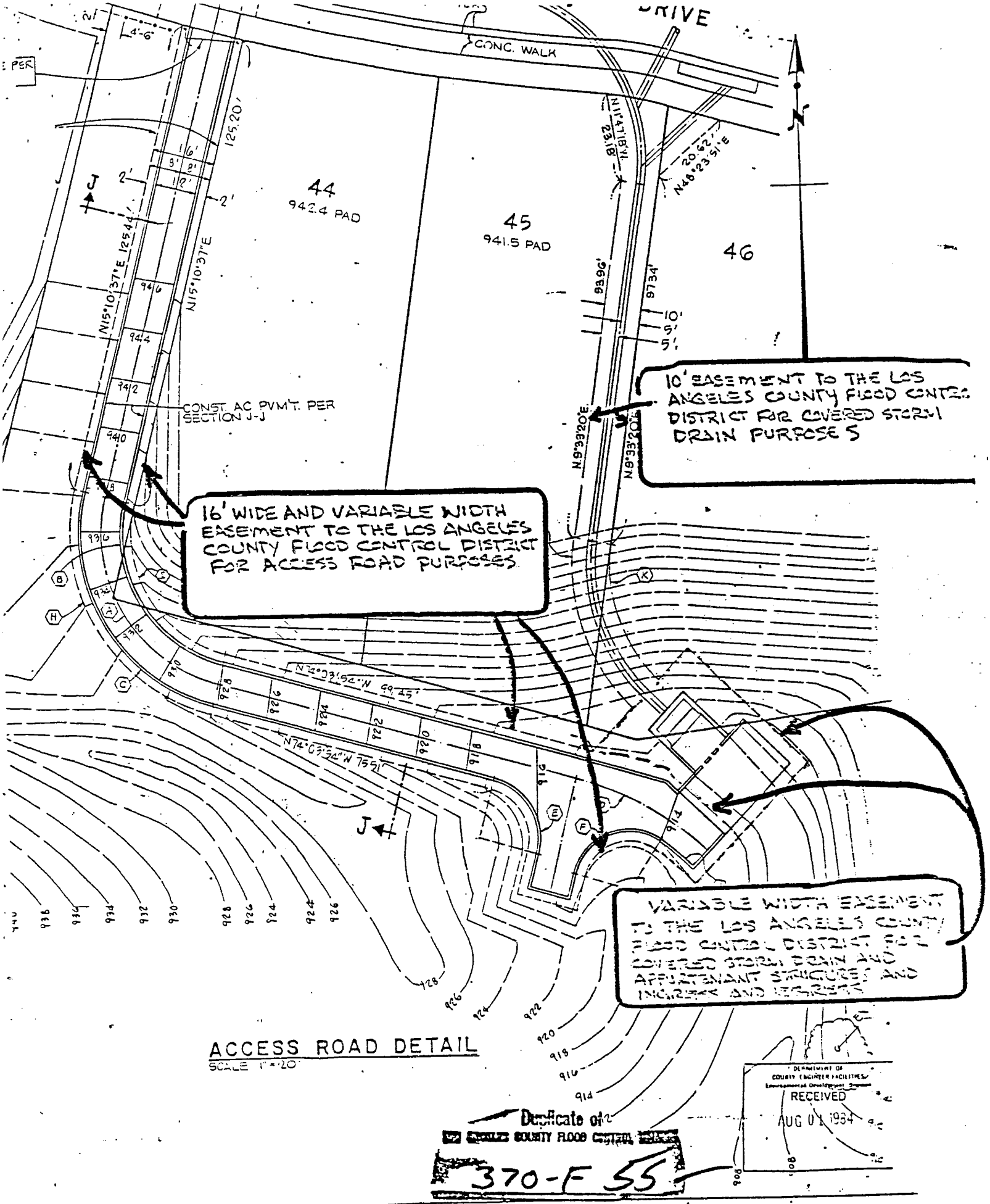
1. A sawcut shall be made one and one-half inches deep at the removal limits. Care shall be exercised in sawing at the removal limits so as not to cut the reinforcing steel in the remaining slab. The existing reinforcing steel shall be retained and extended into the new construction as indicated on the plans.

2. Using handheld equipment the concrete shall be carefully removed for the full depth of the wall or slab and for a minimum distance from the sawcut equal to the longest extension of the existing bars to be extended into the new construction. This extension length shall be 30 bar diameters unless otherwise shown.

3. Existing reinforcement shall be cut to the required bar extension length.

4. The remaining concrete may be removed by any suitable method upon approval of the engineer, who shall be the sole judge of the use of any concrete removal equipment. Explosives, wrecking ball or other similar devices which are likely to damage the concrete to be left in place shall not be used.


CONST. M.H. NO. 2 PER L.A.C.F.C.D.
STD. DWG. NO. 2-D184
A=85°06'32", B=18", D.=42", D.=48"
LATERAL "A-1" = 1+00.00
(SEE PROFILE HEREON)
N 01°50'06" W
DIABLO PLACE
℄ 18" R.C.P.
℄ 48" R.C.P.
374.26'
N.70°56'52"E 116.81'
N.6°18'
3.09'
Δ=4°49'45"
R=168.00'
L=14.16'
10' WIDE EASEMENT TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR COVERED STORM DRAIN AND APPURTENANT STRUCTURES AND INGRESS AND EGRESS
ST. STA. 16+65.78 ℄ C.B. NO.1
CONST. C.B. NO.1 PER LACFCD
NO. 2 - D160, W=3.5', V=7.66, STD
10+21.57 ℄ INT.
HASLEY CYN. RD.
10+21.78 E.C.
EX. P.T. & T. CONDUIT
HASLEY CANYON ROAD
EX. 8" WATER
L.A.CO. WATERWORKS DISTRICT
9+83.44
B.C.
5.5'
ST. STA. 16+65.78 ℄ C.B NO.1
CONST. C.B. NO.1 PER L.A.C.F.C.D
STD. NO. 2-D160 W=3.5', Vm=8.46
EASEMENT LINE (SEE SHT. 6 FOR EASEMENT DATA)
Vout=9.02'
9+27.57
BEGIN 48" R.C.P.
SERVICE ROAD
1½:1
CHANNEL INVERT
℄ LINE "D" (SEE PROFILE ON SHEET 5)
1+91
BEGIN 24
OUTLET STRUCTURE PER DETAIL SHOWN ON SHEET NO. 8
9+17.65 = 10+77.75 ℄ LEVEE ℄ STA.
10' WIDE EASEMENT TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR COVERED STORM DRAIN PURPOSES
VARIABLE WIDTH EASEMENT TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR FLOOD CONTROL PURPOSES



ACCESS ROAD DETAIL

SCALE 1"=20'

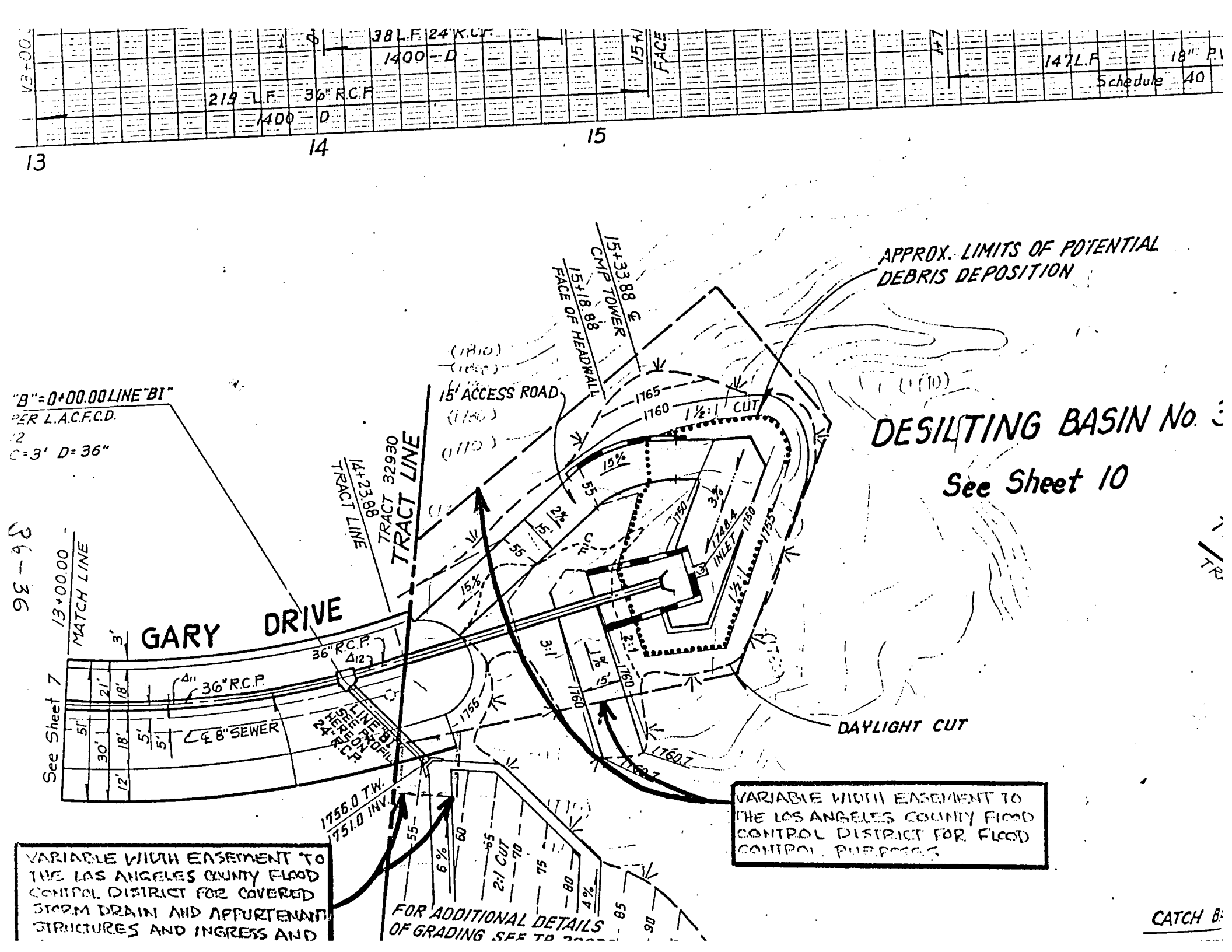
DEPARTMENT OF COUNTY ENGINEER FACILITIES
RECEIVED
AUG 01 1984

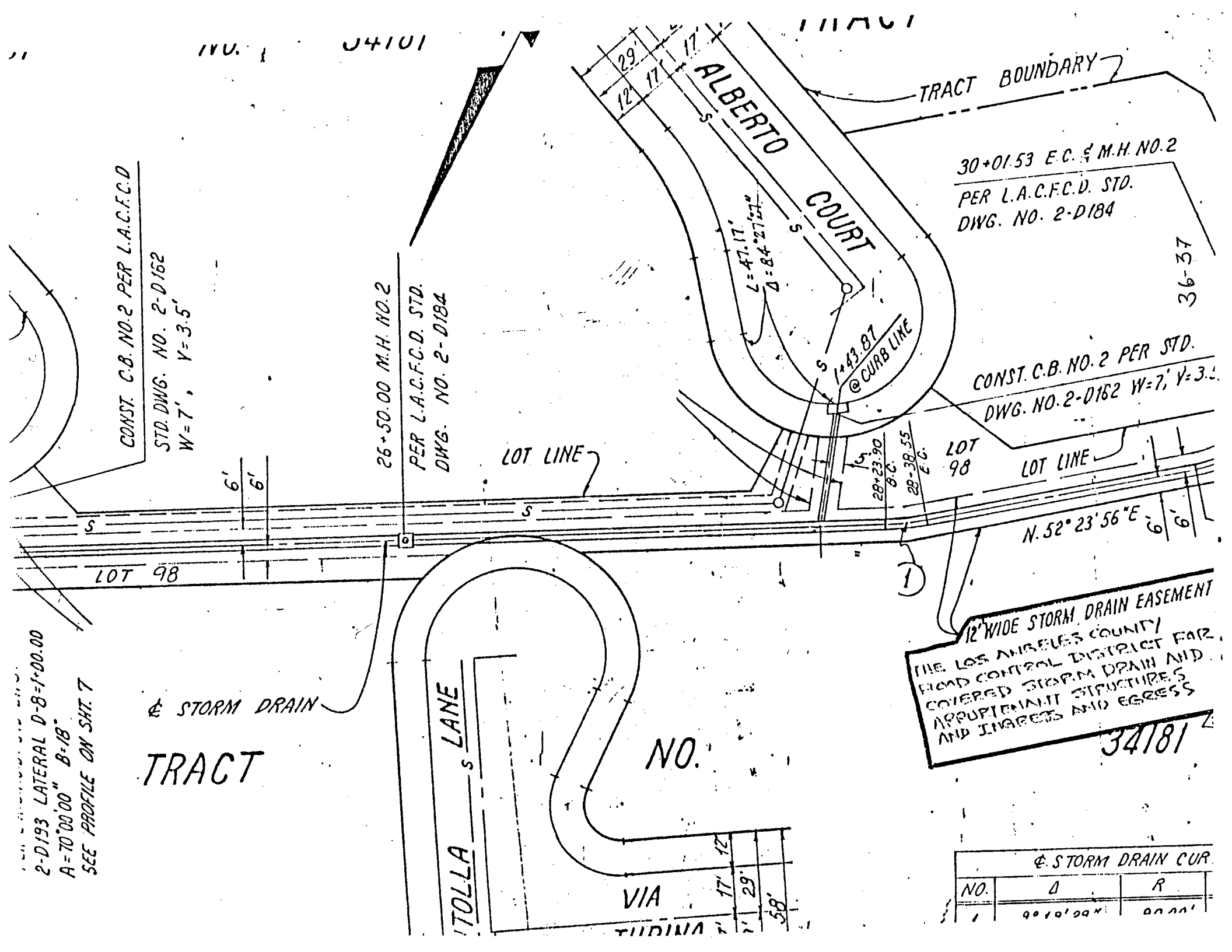
Duplicate of
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
370-F 55

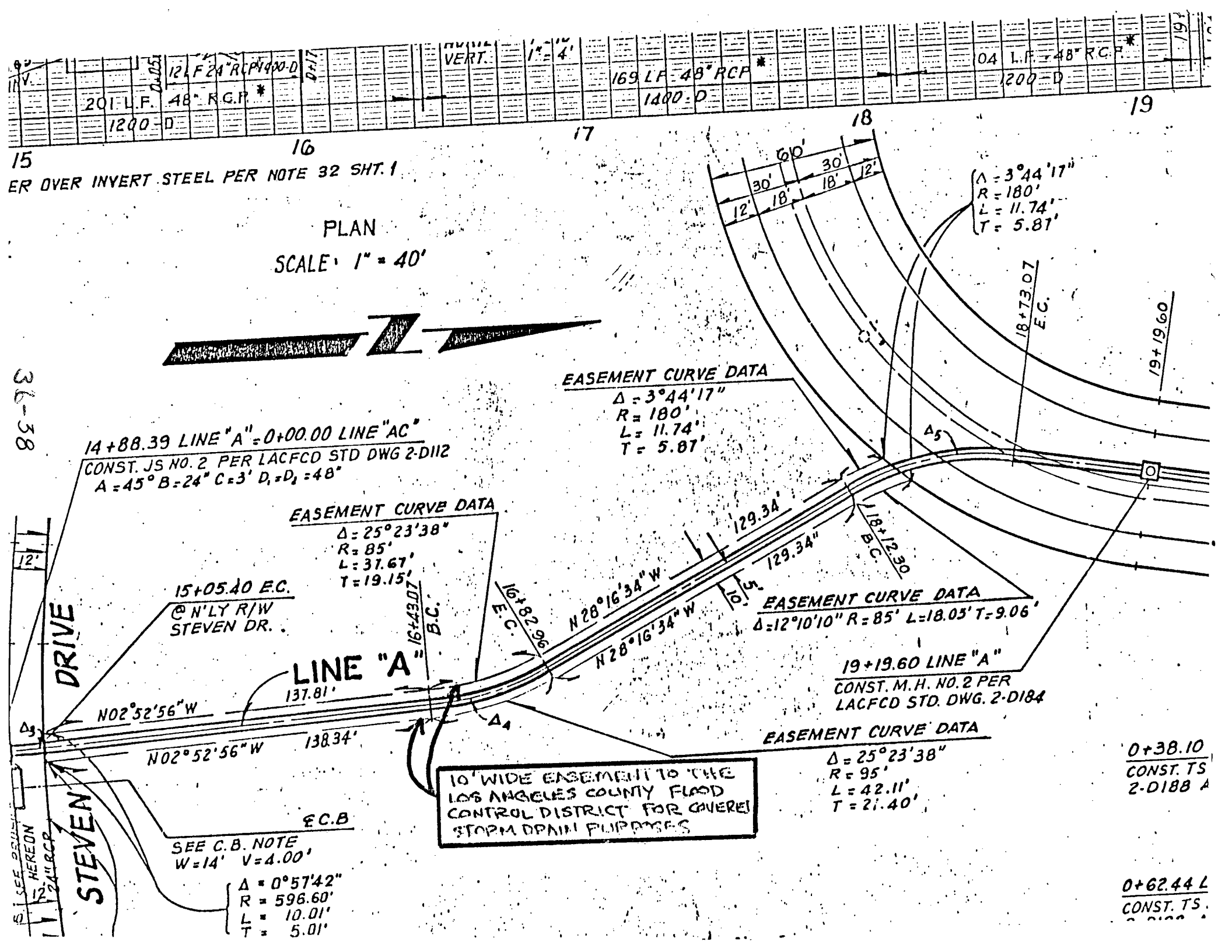
PLANS PREPARED BY:
R.S. ANGVIRE
2940 WESTWOOD BOULEVARD
LOS ANGELES, CALIFORNIA 90064
PHONE 475-6775

CITY OF AGOURA HILLS, CALIFORNIA

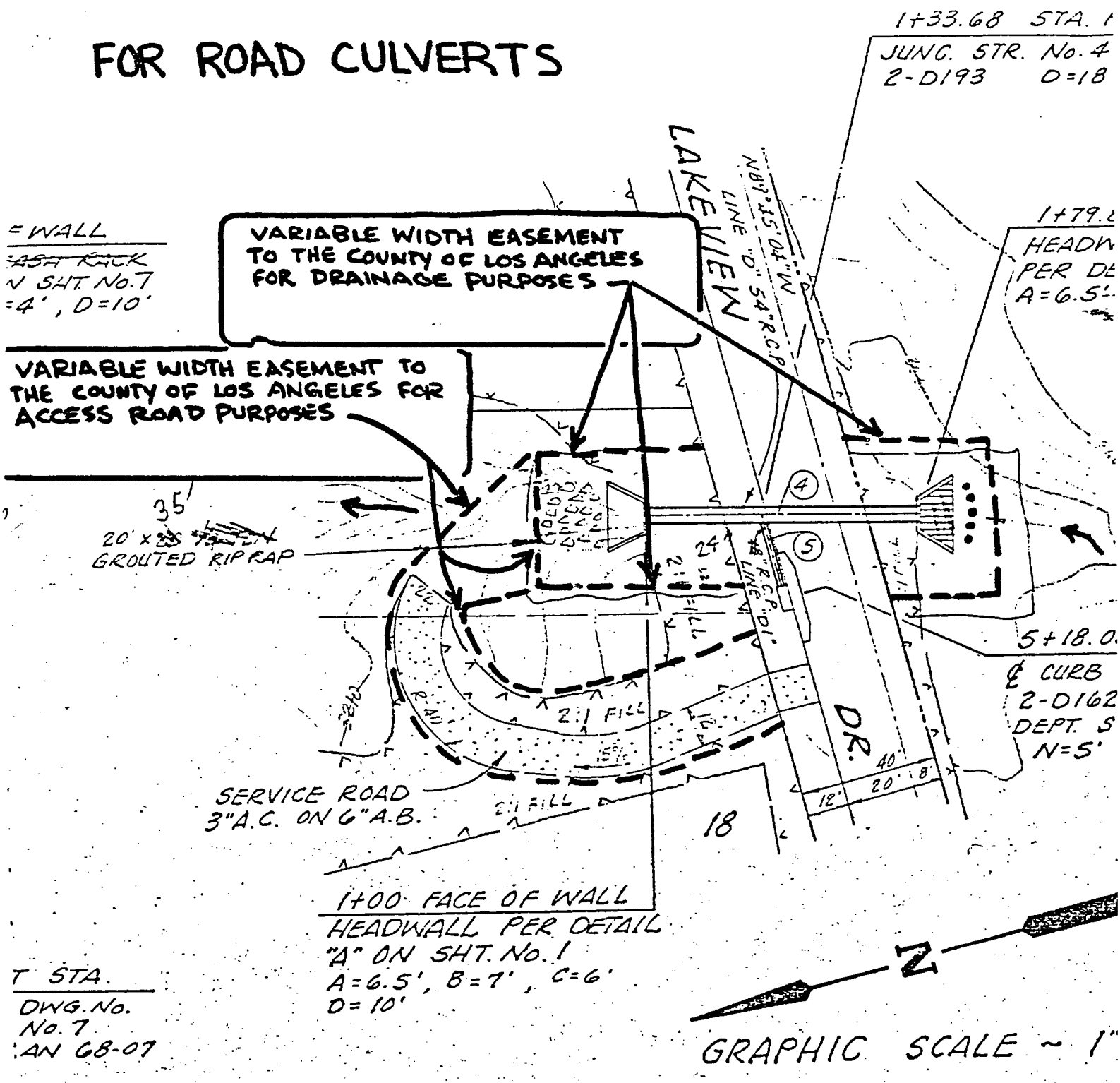
STEPHEN J. KOONCE 36-35 CITY ENGINEER


38 L.F. 24" R.C.P.
1400 - D
219 L.F. 36" R.C.P.
1400 - D
147 L.F. 18" P
Schedule 40
15+41 FACE
13
14
15
"B" = 0+00.00 LINE "B1"
PER L.A.C.F.C.D.
C = 3' D = 36"
13+00.00 MATCH LINE
GARY DRIVE
36" R.C.P.
8" SEWER
See Sheet 7
14+23.88 TRACT LINE
TRACT 32930 TRACT LINE
15' ACCESS ROAD
15+33.88 ℄ CMP TOWER
15+18.88 FACE OF HEADWALL
APPROX. LIMITS OF POTENTIAL DEBRIS DEPOSITION
DESILTING BASIN No. 3
See Sheet 10
1½:1 CUT
INLET
DAYLIGHT CUT
1756.0 T.W.
1751.0 INV.
VARIABLE WIDTH EASEMENT TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR COVERED STORM DRAIN AND APPURTENANT STRUCTURES AND INGRESS AND
VARIABLE WIDTH EASEMENT TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR FLOOD CONTROL PURPOSES
FOR ADDITIONAL DETAILS OF GRADING SEE TR
CATCH B


TRACT
NO. 34101
TRACT BOUNDARY
ALBERTO COURT
29'
12'
17'
17'
L=47.17'
Δ=84°27'37"
1+43.81
@ CURB LINE
30+01.53 E.C. & M.H. NO.2
PER L.A.C.F.C.D. STD.
DWG. NO. 2-D184
36-37
CONST. C.B. NO.2 PER L.A.C.F.C.D
STD. DWG. NO. 2-D162
W=7', Y=3.5'
26+50.00 M.H. NO.2
PER L.A.C.F.C.D. STD.
DWG. NO. 2-D184
LOT LINE
6'
6'
CONST. C.B. NO. 2 PER STD.
DWG. NO. 2-D162 W=7', Y=3.5
28+23.90
B.C.
28-38.55
E.C.
LOT
98
LOT LINE
N. 52° 23' 56" E
6'
6'
LOT 98
12' WIDE STORM DRAIN EASEMENT
TO THE LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT FOR
COVERED STORM DRAIN AND
APPURTENANT STRUCTURES
AND INGRESS AND EGRESS
34181
℄ STORM DRAIN
TRACT
NO.
TOLLA LANE
VIA
TURINA
12'
17'
29'
58'
2-D193 LATERAL D-8=1+00.00
A=70°00'00" B=18"
SEE PROFILE ON SHT. 7
℄ STORM DRAIN CUR
NO.
Δ
R


201 L.F. 48" R.C.P. * 1200-D
12 L.F. 24" R.C.P. 1400-D
VERT. 1"=4'
169 L.F. 48" RCP * 1400-D
104 L.F. 48" R.C.P. * 1200-D
15
16
17
18
19
ER OVER INVERT STEEL PER NOTE 32 SHT. 1
PLAN
SCALE: 1" = 40'
60'
30'
30'
18'
18'
12'
12'
Δ = 3°44'17"
R = 180'
L = 11.74'
T = 5.81'
18+73.07 E.C.
19+19.60
Δ5
EASEMENT CURVE DATA
Δ = 3°44'17"
R = 180'
L = 11.74'
T = 5.81'
14+88.39 LINE "A" = 0+00.00 LINE "AC"
CONST. JS NO. 2 PER LACFCD STD DWG 2-D112
A = 45° B = 24" C = 3' D1 = D2 = 48"
EASEMENT CURVE DATA
Δ = 25°23'38"
R = 85'
L = 37.67'
T = 19.15'
129.34'
129.34'
18+12.30 B.C.
15+05.40 E.C. @ N'LY R/W STEVEN DR.
16+43.07 B.C.
16+82.96 E.C.
N28°16'34"W
N28°16'34"W
10'
EASEMENT CURVE DATA
Δ=12°10'10" R=85' L=18.05' T=9.06'
19+19.60 LINE "A"
CONST. M.H. NO. 2 PER LACFCD STD. DWG. 2-D184
LINE "A"
137.81'
N02°52'56"W
Δ3
Δ4
N02°52'56"W 138.34'
EASEMENT CURVE DATA
Δ = 25°23'38"
R = 95'
L = 42.11'
T = 21.40'
0+38.10
CONST. TS
2-D188 A
10' WIDE EASEMENT TO THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR COVERED STORM DRAIN PURPOSES
STEVEN DRIVE
E.C.B
SEE C.B. NOTE
W=14' V=4.00'
Δ = 0°57'42"
R = 596.60'
L = 10.01'
T = 5.01'
SEE DETAIL HEREON
12" 24" RCP
0+62.44 L
CONST. TS
36-38

FOR ROAD CULVERTS



②	③	④	⑤
N88°21'37"W	N88°21'37"W	N15°30'15"E	N89°45'04"W
31.76'	21.24'		21.31'
18" R.C.P.	18" R.C.P.		
LINE "C1"	LINE "C2"		

TYPES OF ESTATES TO BE ACQUIRED

Type of Estate	Parcel I.D. Letter Designation	Type of use which may be included (without limitation)
Fee for:		
1. Public Road and Highway Purposes	RH	When purchased for public roads and highways.
2. Public Purposes	P (Purpose)	Water reservoir, tank site, or other public purposes.
3. Flood Control Purposes	FC	Open channels and permanent inlet and outlet structures requiring vehicular stream bed access, debris basins, detention/retention basins, and debris disposal areas.
Easement for:		
1. Public Road and Highway Purposes	RH	When obtained gratis for roads and highways.
2. Flood Control Purposes	FC	Open channel and inlet and outlet structures requiring vehicular access. Also for debris basins and detention/retention basis when facilities may be relocated when property develops.
3. Covered Storm Drain Purposes	SD	Storm drain entirely underground includes right for owner to over-build subject to approval of plans by Department of Public Works.
4. Covered Storm Drain and Appurtenant Structures (and Ingress and Egress)	SD	Covered storm drain with or without catch basins, inlet and/or outlet structures and/or manholes. Add ingress and egress where surface access is required for maintenance.

Type of Estate	Parcel I.D. Letter Designation	Type of use which may be included (without limitation)
5. Drainage Purpose	D	All inclusive for covered or open storm drain, ditches, surface flow, berm to deflect flow with right of access to construct and maintain.
6. Ingress and Egress	IE	Right of access with minimum improvements only.
7. Access Road	A	Access route with right to construct and maintain improvements (not public).
8. Slope Purposes	S	Cut or fill slopes and slope drains.
9. Temporary Construction Area	T	Temporary right to use area in connection with a construction project.
10. Temporary Slope Purposes	TS	Temporary right to slope an area and leave slope in place.
11. Traffic Signal Purposes	TC	Traffic signal equipment and appurtenant structures.
12. Sewer Purposes	SW	Sanitary sewer and appurtenant structures.
13. Waterline Purposes	W	Water pipeline and appurtenant structures.
14. Air Rights	AR	Maintain sight distance visibility for roads.
15. Access Rights	NR	No vehicular access to owner's property from specified public highway.
16. Right to Restrict Access	RA	Right to restrict vehicular access to owner's property.

CHAPTER 37

MISCELLANEOUS TRANSFER DRAIN (MTD'S) PLANS AND SUPPORTING DATA

Miscellaneous transfer drains (MTD's) have very similar requirements for design and construction as do private drains (see Chapter 36). However, there are some differences which are described below (for procedures, see Chapter 20):

A. General Requirements for MTD's.

MTD's must meet the same minimum standards for a private drain as presented in Chapter 36 of this Manual subject to the specific revisions and additions presented in this Chapter.

B. MTD Design Criteria

The basic design criteria for a MTD is the same as that for a private drain as described in Chapter 36 of this Manual, however, there are the following differences:

1. The jurisdictional agency is responsible for approving the hydraulics and hydrology for the project. However, the Department will verify that their approvals are compatible with County standards and design criteria presented in this Manual and other referenced manuals.

2. The effect of grading and street design in connection with the MTD is the responsibility of the jurisdictional agency and is not reviewed by the County unless the city has contracted with the County for these services.

3. The County is not responsible for issuing pipe size or D-load approval. It is the responsibility of the jurisdictional agency.

4. The Flood Control District will not accept MTD's whose catch basins are not constructed in accordance with the Standard Plans for Public Works Construction as presented in Chapter 44 of this Manual.

5. The jurisdictional agency is responsible for processing a CLOMR and/or LOMR thru FEMA if required.

C. Plan Requirements

The plans shall meet the criteria in Chapter 36 of this Manual with the following exceptions:

1. Title Block

The title block shall be that of the jurisdictional agency (City).

2. All approval signatures must be that of the jurisdictional agency.

3. Above the title block there must be the word "MTD" plus the project MTD number.

4. Required MTD Plan Notes

The general notes on Pages 37-3 through 37-5 apply to all MTD's. It should be noted that they are very similar to the general notes for a private drain, but there are some differences in how the MTD is administered. The standard notes in Chapter 36 of this Manual for rip rap, structures, cast-in-place pipes, and breakouts on Page 36-3, are valid for MTD's.

D. MTD Rights-of-Way Dedications

All rights of way dedications are made to the jurisdictional agency. Upon acceptance by the County of the project, the City will quitclaim the rights-of-way to either the Los Angeles County Flood Control District if within their boundaries or otherwise the County of Los Angeles.

E. MTD Special Transfer Procedures

1. City of Los Angeles

The procedures for transferring a MTD from the City of Los Angeles is the same as for other jurisdictional agencies, however, there is the following exception:

The city must submit a letter requesting transfer. The request must be initiated by the City's Director of Public Works. In accordance with Agreement No. 14899, the Flood Control District accepts the normal operation and maintenance of the facility. However, the city retains the rights–of–way and responsibility for any structural failure or other necessary repairs.

2. California Department of Transportation (Caltrans)

Under current Department policy, State Department of Transportation drainage facilities are not acceptable for transfer unless the drain is a portion of the Flood Control District Comprehensive Plan Drainage System. However, any drain constructed by Caltrans in local streets and frontage roads may be transferred to the Flood Control District or the County once the local streets and frontage roads have been relinquished by Caltrans to the jurisdictional city or County. Otherwise a separate agreement is needed to transfer the facility from the City directly to the Los Angeles County Flood Control District or the County of Los Angeles.

MTD'S
GENERAL NOTES

1. A permit shall be obtained and all fees and deposits for construction inspection shall be paid to the Department of Public works at the Permit Counter, 900 South Fremont Avenue, 8th Floor, prior to starting work under this contract. Also, all other required permits such as Road Excavation Permits, must be obtained prior to starting work.

2. The contractor shall contact the District Office listed on the "Application for Storm Drain Construction Inspection Form I" to arrange for an acceptable construction start date.

3. Approval of this plan by the County of Los Angeles does not constitute a representation to the accuracy of the location, or the existence or nonexistence of any underground utility, pipe or structure within the limits of this project. This note applies to all sheets.

4. All work shall be in accordance with the latest adopted edition of the "Standard Specifications for Public Works Construction," including supplements, and shall be prosecuted only in the presence of the Director of Public Works/City Engineer.

5. The contractor's attention is directed to Section 7-10.4.1 of the Standard Specifications for Public Works Construction in regard to safety orders.

6. Elevations are in feet above U.S.C. & G.S. Mean Sea Level Datum of 1929, unless otherwise indicated.

7. No concrete shall be placed until the forms and reinforcing steel have been placed, inspected and approved.

8. All structural concrete shall be portland cement concrete with an ultimate 28-day compressive strength of 3250 psi unless otherwise noted.

9. Transverse reinforcement and transverse joints shall be placed at right angles (or radial) to the conduit centerline except as otherwise shown on the drawings.

10. All steel adjacent to face of concrete shall have a 2-inch clearance unless otherwise specified.

11. Reinforcement shall be deformed bars of intermediate grade steel, per ASTM A-615-grade 60.

12. All bar bends and hooks shall conform to the American Concrete Institute "Manual of Standard practice."

13. Dimensions from face of concrete to steel are to center line of steel unless otherwise noted.

14. All steel that is to be continuous shall have a minimum lap of 30-bar diameters or 18", whichever is greater.

15. All construction joints in the footing or slabs and walls shall be in the same plane. No staggering of joints will be permitted.

16. All exposed edges shall be finished with a 3/4" chamfer.

17. Unless otherwise shown, concrete dimensions shall be measured vertically or horizontally and parallel or at right angles (or radial) to the center line of construction.

18. Concrete backfill is required when the pipe has less than one foot of cover. The concrete backfill shall consist of 1:3:5 mix, portland cement concrete poured from wall to wall of trench and from bottom of trench to a minimum of 4 inches over the top of the pipe.

19. All pipes shall be placed in trench in natural ground and/or compacted fill. The ground level before the trenching shall be at least 3 feet above the top of the pipe elevation, or at finish surface elevation, whichever is less.

20. All backfill and fills outside of street right of way shall be compacted to 90% of maximum density as determined by ASTM Soil Compaction Test D 1557-78 Method "D" unless otherwise specified. This shall be certified by a geotechnical engineer. This certification shall be submitted to the City Engineer prior to acceptance of the work by the County.

21. All backfill and fills within street rights-of-way shall be compacted in accordance with City requirements unless otherwise noted and inspected by the City. The soil compaction shall be certified by a geotechnical engineer.

22. Pipe bedding shall be:

    In accordance with Los Angeles County Engineer Case Ad Bedding per Standard Drawing D-54 unless otherwise noted. The bedding material placed from the bottom of the pipe to 1 foot over the top of the pipe shall be sand, crushed aggregate, or native free-draining granular material and shall have a sand equivalent of 20 or greater.

    OR

    According to Standard Drawing No. 2-D177, Case III, except bell and spigot pipe which shall be Case II bedding, unless otherwise shown. "W" values shall be as specified on Standard Drawing No. 2 -D177 for Case III bedding, Notes 3 (a).3 (b). and 3 (c). If the "W": value at the tip of the pipe is exceeded, the bedding shall be modified, and/or pipe of additional strength shall be provided. The proposed modification shall be approved by the Department.

23. Pipe shall be embedded 5 inches into all structures including inlet and headwalls, unless otherwise specified.

24. "Unless otherwise specified in the profile on these plans, the pipe shall be manufactured with a minimum concrete cover over the steel in the invert of 0.75 inches for RCP up to 96 inches in diameter and 1.25 inches for pipe greater than 96 inches in diameter."

25. All catch basins within the dedicated street right-of-way shall be constructed per Standard Plans for Public Works Construction.

26. The contractor shall submit a supplemental drainage plan designed by a civil engineer and shall provide to the satisfaction of the City Engineer, a system for contributory drainage to be operable at all times until this storm drain system is accepted.

27. All references on this plan to the County Engineer, Road Department, or Flood Control District shall apply to the appropriate elements of the Department of Public Works.

28. Existing utilities shall be maintained in place by the contractor, unless otherwise noted.

29. Where the utilities are indicated on the Drawings to be supported, said supports shall be in accordance with Standard Plans for Public Works Construction No. 224 unless otherwise indicated.

30. All openings resulting from the cutting or partial removal of existing culverts, pipes or similar structures shall be sealed with 8 inches of Brick and Mortar or 6 inches of concrete, unless otherwise shown.

31. Manholes no. 1, 2, 3, and 4, shall use the Standard Plans for Public Works Construction No. 630 for the "Frame and Cover" and No. 635 for the "Standard Drop Step".

32. This storm drain will not be accepted for maintenance until the streets have been paved, manholes brought to grade, and the system cleaned to the satisfaction of the Director of Public Works.

33. The latest revised standard plan or drawing shall be used unless otherwise specifically noted.

34. An NPDES permit from the Regional Water Quality Control Board is required before any discharge of non-storm water into the storm drain is allowed.

CHAPTER 38

DAM PLANS, SUPPORTING DATA AND INSPECTION

Land Development Division is responsible for the plan review and approval of small dams, and the safety inspection of privately owned small dams after they are completed. Construction Division is responsible for the construction inspection of these small dams. This Division participates in the inspection and monitoring of all dams owned by the County. The purpose of this Chapter is to define what constitutes a large dam and a small dam. Also this Chapter covers those minimum standards enforced by Land Development Division in regards to meeting State and County Code requirements. This includes the design, construction inspection, maintenance and surveillance of all large and small dams in Los Angeles County not under the jurisdiction of a Federal or State Agency. The procedures regarding plan approval and construction inspection are described in Part II of this Procedure Manual.

Large dams are under the jurisdiction of the State Department of Water Resources Division of Safety of Dams. According to Sections 6002 and 6003, Division 3 of the Government Water Code, "a large dam means any artificial barrier together with a pertinent works which does or may impound or divert water, and which either (a) is or will be 25 feet or more in height from the natural bed of the stream or watercourse at the downstream toe of the barrier, as determined by the Department of Water Resources, or from the lowest elevation of the outside limit of the barrier, as determined by the Department of Water Resources, if it is not across a stream, channel or watercourse, to the maximum possible water storage elevation or (b) as or will have an impounding capacity of 50 acre-feet or more."

Any such barrier which is or will be not in excess of a 6 feet in height, regardless of storage capacity or cwhich has or will have a storage capacity not in excess of 15 acre-feet, regardless of height, shall not be considered a large dam for the purposes of this Manual.

Materials Engineering Division is responsible for providing geology and geotechnical engineering data and recommendations for input into the Department's annual report for those large dams under the jurisdiction of the State prepared by the Dams Investigation Unit in Hydraulic/Water Conservation. In order to prepare this report, data collection, dam inspection and analyses of the dam's stability are required.

A "small dam" means any barrier, embedment, leave, revetment, spillway or outlet which does, which is designed to, or intended to, or may impound more than one acre-foot of water or other fluids or fluid materials to a depth of more than three feet at the deepest part.

A small dam does not include:

a. Any obstruction in a canal used to raise or lower water therein or divert water therefrom;

b. Any railroad fill or other railroad structure;

c. Any fill or structure for public highway purposes;

d. Any dam included in the provisions of Division 3, Part I of the California State Water Code (Large Dam) as described above.

e. Any overnight storage reservoir used for the purpose of irrigation, or any small dam situated in an isolated, self-contained area, if the Drainage and Grading Section finds that, by reason of such isolation and self-containment, no danger to private or public property can now or thereafter result from the construction, failure or operation of the structure or appurtenances;

f. Any dam, under regulations of other public agencies, whose specific duties and obligations are the construction or maintenance of such appurtenances, or are regulated by other Los Angeles County ordinances, such as retention basins, detention basins, debris dams, diversion structures, spreading grounds, etc., constructed to be operated and maintained by the Los Angeles County Flood Control District or the Department of Public Works.

I. Small Dam Plan Requirements

Refer to Chapter 26 of this Manual for a generalized description of Capital Project Procedures.

A. Small Dams not to be Maintained by a Public Agency

1. Required Permit for Construction, Alteration or Removal

A person, firm, or corporation shall not construct, alter or remove, or cause or permit another person to construct, alter, or remove a small dam until he first obtains a written permit from the Drainage and Grading Section, Building and Safety/Land Development Division, Department of Public Works.

2. Permit Applications

The permit application for a small dam shall be part of either a grading plan, as described in Chapter 14 of this Manual, or preferred as a private drain, as described in Chapter 18 of this Manual. It is the goal of this Department to make this a private drain so it can be processed according to the procedures in Chapter 18 of this Manual. In addition, the form, "Application and Permit for Small Dam," shown on Page 38-12 must be completed. This application submittal must meet the following requirements of the County Code:

a. Name and address of the property owner, and the name and address of the applicant if the applicant is not the owner.

b. A legal description of the property where the small dam is to be constructed and a plot plan showing the location.

c. A map of the drainage area.

d. Two sets of plans and specifications of the construction proposed, including a plan of the area to be flooded, with accurate contour lines showing the original topography.

e. Rainfall and runoff (hydrological) data and other computations necessary to determine the amount of water to be expected.

f. Accurate cross-sections and grade of the outlet channel.

g. Data concerning subsoil and foundation conditions; the Department of Public Works may require reports prepared by qualified engineering geologists and geotechnical engineers.

h. Plans and computations required for small dams under the provisions of this chapter shall conform to the Design Standards for Small Dams on Pages 38-13 through 38-15. It should be noted that this document was last upgraded in 1965. The requirements for determining the hydrology must be in accordance with the requirements described in Chapter 34 of this Manual.

i. Plans and computations must be prepared, signed and sealed by a civil engineer registered by the State of California, unless the plans have been prepared under the direction of and approved by the United States Department of Agriculture or other federal governmental agency.

j. An estimate for the construction cost of the project.

k. Such other information and data the Director of Public Works finds is necessary to properly evaluate the application.

In instances where the physical conditions are such that no engineering problems are involved in the design, and the size of the dam is such as to render the above requirements as to drainage area, rainfall data, subsurface investigation and plan preparation by a registered civil engineer unnecessary, the Department of Public Works may waive one or more of the requirements, designated as c.e.g and i described above.

When application is made for a permit under the Small Dam Ordinance, an application fee based on the estimated cost of the project as determined by the Department of Public Works and as set forth in Table A in Item 5 (Page 38-5) will be paid to the County of Los Angeles. This fee shall be separate and apart from any fees or deposits collected or imposed under this Section or any other County ordinance or regulation, or by reason of any license, agreement or contract between the applicant and any other agency.

The Drainage and Grading Section, Building and Safety/Land Development Division, Department of Public Works shall review the application and data submitted therewith and within 30 days advise the applicant of their findings.

3. Plan Approval

The County will approve plans and issue a permit for a small dam when it is found that:

a. A hazard to life and property will not be created.

b. Water supplies will not be polluted or endangered.

c. There will be no tendency or contribution toward the creation of a nuisance.

d. There will be no interference with the operations of other duly constituted agencies.

e. The proposed construction and resulting impoundment will not violate existing laws or ordinances and is in conformance with the environmental assessment.

f. All necessary permits from other agencies have been obtained and fees paid.

g. The fees required by this Chapter have been paid and bonds posted.

4. Construction Inspection

As described in Chapter 18, small dams will be generally inspected as a part of a private drain construction. Table A in Item 5 (Page 38-5) presents the fee that is to be collected at the time the permit application is submitted and is for construction inspection.

5. Fee Schedule

After the Department of Public Works has approved the plans and before a permit is issued, the applicant shall pay (in addition to the application fee) a permit fee, which shall be based upon the estimated cost of the project, as determined by the Department of Public Works and as set forth in Table A on the following page.

TABLE A

Estimated Construction Cost	Amount of Fee Application	Permit
$ 0.00 to $ 5,000.00	$ 50.00	$ 25.00
5,001.00 to 15,000.00	150.00	100.00
15,001.00 to 25,000.00	175.00	125.00
25,001.00 to 50,000.00	200.00	150.00
50,001.00 to 100,000.00	250.00	200.00
100,001.00 or over	300.00	250.00

Neither the County of Los Angeles nor any public officer or body acting in his official capacity on behalf of this County shall pay or deposit any fee. This Chapter does not require the payment of any fee where the collection of such fee is prohibited by Section 6103 of the Government Code or by any other statute.

In the event the Department of Public Works has performed no checking on the plans and computations submitted with the application, the applicant, upon written request to the Department of Public Works for cancellation, is entitled to a refund of 50 percent of the total amount actually paid as the application fee.

In the event that any person shall have obtained a small dam permit, and no work or construction shall have been commenced, and the permit has been canceled, the permittee, upon submitting a request in writing, shall be entitled to a refund in an amount equal to 80 percent of the permit fee actually paid for such permit.

6. Plans and Specifications

The plans and specifications must be prepared in accordance with the Private Drain procedures described in Chapter 18 and to the minimum standards described in Chapter 36. The appropriate portions of the Design Manual for Debris Dams and Basins may also be utilized in the preparation of plans and specifications.

7. Work Authorized by Permit

A small dam may be constructed under either a grading permit or a private drain permit. In addition, a small dam permit is also issued (see Item 2).

The issuance of a small dam permit shall constitute authorization to do only that work which is described or illustrated on the approved plans and application for the permit.

Permits issued under this chapter shall not relieve the permittee of the responsibility for securing permits or licenses that may be required for other agencies.

The time limit for completion of construction will be stated on the permit, and may be extended only on written request of the permittee and after an investigation by the Department of Public Works to determine if the extension is warranted.

The issuance or granting of a permit or approval of plans and specifications shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this Chapter. No permit presuming to give authority to violate or cancel the provisions of this Chapter shall be valid, except insofar as the work or use which it authorizes is lawful.

The issuance of a permit based upon plans and specifications shall not prevent the Department of Public Works from thereafter requiring the correction of errors, in said plans and specifications, or from preventing construction from being carried on thereunder when in violation of this chapter or other County ordinance or State law.

Any modifications or changes in plans after the issuance of a permit shall be approved in writing by the Department of Public Works.

The issuance of a permit or the compliance with the provisions thereof, or of any conditions imposed in the permit shall not relieve any person from responsibility for damage to other persons or property, nor impose any liability upon the County or its agents for damage to other persons or property, or relieve the owner or operator of a small dam of the legal duties, obligations or liability incident to ownership or operation of the dam.

8. Bond Conditions

Each bond shall include the conditions that the permittee shall:

a. Comply with all of the provisions of applicable laws and ordinances.

b. Comply with all of the terms and conditions of the construction permit.

c. Complete all of the work contemplated under the permit within the time limit shown on the permit, unless a time extension is granted; no such extension of time shall release the surety upon the bond.

d. Upon default by the permittee, the surety shall complete the work contemplated under the permit, or shall remove or demolish any partially completed structures constructed under the permit and clear, clean and restore the site to its original condition, or do such other work as required by the Department of Public Works to assure that a dangerous condition or nuisance does not exist or will not be created.

9. Water Rights

It shall be full responsibility of the owner or permittee to determine and comply with State water laws governing the use of water and vested rights of others before starting any construction for impounding water under this Chapter.

10. Right of Entry by County Personnel

Any authorized representative of the County of Los Angeles in the performance of his official duties shall be granted access to the premises upon which a small dam is situated for the purpose of making such inspections as are necessary to insure compliance with the provisions of this Chapter and the conditions of the permit issued under this Chapter.

In the event of default by the permittee, the surety or any person employed or engaged on its behalf may go upon the premises to complete the required work or to remove or to demolish partially completed work structures, and to clear, clean and restore the site, or to do such other work as is authorized by this Chapter.

11. Construction Supervision

All construction work authorized by a permit for a small dam shall be supervised by a civil engineer employed by the permittee and licensed to practice by the State of California and experienced in the type of construction for which the permit was issued. This shall be noted in the plans and/or specifications.

If the Department of Public Works finds that either the extent of the construction work or the physical conditions, or both, are such as to make supervision by a registered civil engineer unnecessary or impractical, he may waive the requirement.

12. Construction inspection shall be performed in accordance with the procedures described in Chapter 18 of this Manual to assure compliance with the intent of the permit and Chapter 11.62 of Title 11 of the County Code (Small Dams Ordinance).

13. Sampling and Testing of Materials and Soil Samples

Material and soil samples must be taken during construction in accordance with the requirements of Chapter 70 of the Building Code (see Chapters 14, 15 and 30). Test reports evaluating the essential properties must be filed in his office as construction proceeds. Such sampling and testing shall be performed by a testing laboratory, and shall be done at no expense to the County (see Chapter 49).

14. Remedy of Defective Work

The plans and specifications must note that within 10 days after the Director of Public Works notifies the permittee that any work is defective, either in its construction or material, or both, the permittee shall reconstruct or remove such work or materials, and make it conform to the provisions of the permit.

15. Stop or Suspend Work

The plans or specifications must note that should the Director of Public Works determine that, prior to completion, a hazardous or dangerous condition exists or is impending because of weather or flood conditions, or for other reasons, the Director of Public Works may order the work suspended and safeguards maintained until the hazard or dangerous condition has passed or has been relieved.

16. Suspension of Work Notice

A notice of suspension of work or requirements as to safeguards shall be given in writing served on any persons engaged in the doing or causing such work to be done, and any such persons shall forthwith stop such work until authorized by the Director of Public Works to proceed, or shall provide such safeguards as are required.

17. Fencing and Other Protective Measures

Requirements for fencing and protection of the public shall conform to the requirements of Division 2 of Title 11, on General Hazards, as amended, or as required by other County ordinances or State law (see Chapter 36).

18. As-Built Plans and Civil Engineer's Certificate

At the completion of construction supervised by a registered civil engineer, the permittee shall file with the Drainage and Grading Section one complete set of as-built plans, together with a certificate by the civil engineer certifying that all work was completed in accordance with the approved plans and specifications. The filing of such plans and certificate shall be a condition precedent to release of the surety.

19. Any alteration, structural change, excavating or dredging, filling or revetting of a small dam or the appurtenances thereto requires that a permit be first obtained for a small dam under the provision of Item I of this Chapter.

B. Small Dams to be Maintained by the County

All debris dams and embankments or dams for retention or detention basins must be designed in accordance with the requirements in the Design Manual for debris dams and basins. (Basins associated with these dams are discussed in Chapters 40, 41 and 43 of this Manual.) While these dams are specifically exempt from the small dams ordinance if they are to be maintained by either the County or the Flood Control District, the design and safety requirements for small dams under Item A will still be required. The dimensions of the dam must be based on the requirements of a debris basin (see Chapter 41 and the Department's Dam and Debris Basin

Manual). These dams must be constructed as part of a private drain system as covered in Chapter 36 or as part of a miscellaneous transfer drain as covered in Chapter 37.

II. Small Dam Safety Inspection

It is the responsibility of the Drainage and Grading Section to inspect annually all small dams that are privately maintained for meeting minimum public safety standards. The Department has a committee that periodically reviews all small dams under the jurisdiction of the Department to maintain in order to determine that these dams are performing as intended. An triennial inspection of all small dams are coordinated by this committee for the purpose of verifying that they are safe for the intended use. More frequent inspections are made on some dams where conditions warrant.

A. Dams Privately Maintained

The small dam ordinance states that:

1. The responsibility for proper operation and maintenance of a small dam shall rest with the owner of the land upon which the dam is situated. At no time shall the owner operate or permit to be operated, or maintain or permit to be maintained any small dam, including the water or liquid impounded and the area adjacent, in such a manner as to create a nuisance or hazard to life and property.

2. Whenever the Director of Public Works determines by inspection that any small dam is or is likely to become unsafe, or is not being properly maintained and operated, the owner shall, within 10 days of receipt of written notice (see Page 27-15, Chapter 27) from the Director of Public Works, take the necessary steps to comply with the requirements set forth in the notice.

3. If the owner fails to rectify the unsafe or improper condition within 10 days of receipt or written notice, the Director of Public Works shall take the necessary steps, in accordance with Item 4 below and Chapter 27 to make the small dam safe and proper.

4. The Director of Public Works may immediately employ any remedial means necessary to protect life and property if he finds that the condition of any small dam is so dangerous to the safety of life and property as not to permit enough time for the issuance and enforcement of an order relative to maintenance and operation or removal of a small dam.

   The Director of Public Works shall notify the owner in writing of the cost of such work. If the total cost is not paid within 30 days after receipt of such notice, or unless a request for a hearing has been filed with the Board of Supervisors, the Director of Public Works shall record in the office of the County Recorder the total balance still due and a legal description of the property. From the date of the recording, such balance due will be a lien on the property.

It is the responsibility of the personnel in Drainage and Grading Section to inspect all privately maintained small dams at least once a year to verify that the above conditions are being met. The results of the inspection are noted on the annual inspection of small dams form on Page 38-16.

B. Dams Maintained by the Department

There are approximately 150 debris dams that are maintained and operated by the Department that are classified as not being under the provisions of the State Dam Safety Act. Chapter 26 describes general inspection procedures. The requirements of the dam inspections are presented in the Materials Engineering Geotechnical Design Manual.

III. Large Dam Safety Inspection

Approximately thirty-one dams (9 concrete and 22 earth and rock fill dams), which are owned by the Flood Control District and maintained by the Department, are operated under the jurisdiction of the State Department of Water Resources, Division of Safety of Dams (DSOD). This State organization is responsible to see that these dams are operated safely. Routine and detailed safety investigations are performed on each major dam separately by both DSOD inspectors and the Department's Review Committee on Dam Safety (see Chapter 26 of this manual for generalized requirements). The investigation by DSOD results in the issuance of a new operating license with a continuance or a change in operating regulations for each dam. Representing the Department at this inspection are personnel from Flood Maintenance Division.

The annual monitoring reports prepared by the Department are received, reviewed and filed by DSOD.

Materials Engineering Division's role is representing the owner of the Dams in performing dam inspection and monitoring is presented in the Geotechnical Design Manual.

CHAPTER 39

SUBDRAIN PLANS AND SUPPORTING DATA

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In designing any engineered structure, the effect of subsurface water, pore water pressure and drainage performance must be considered. A subdrain is often necessary to ensure the satisfactory performance of the soil or bedrock and to prevent structural failure due to the build up of excessive pore water pressure. In addition, landslide movement may be eliminated or reduced by the placement of a subdrainage system. While subdrainage systems are generally beneficial, they can create problems to existing nearby structures if not done under the careful design by a geotechnical engineer.

I. When Subdrains are Required

When the natural groundwater movement is obstructed sufficiently to create an unstable condition or whenever the groundwater exists or can rise sufficiently, due to the development of the area, to cause a hazard or nuisance, a subdrain system must be provided to eliminate he adverse conditions.

Generally, subdrains are required for the following: buttress and stabilization fills; shear keys; bottom and sides of canyon fills; open channels and levees; box storm drain conduits; retaining walls; basement walls; dams; and landslides. Some subdrain systems are extremely critical and, should they fail to operate, potential structural or slope failure is very likely to occur. Other subdrain systems are installed as a precautionary measure to prevent possible failure should unanticipated groundwater conditions occur. Some subdrain systems may be temporary in nature, to be in place only during construction to provide temporary access or stability, or to accelerate settlement prior to and during construction and thereby accelerating the completion of the project.

II. Types of Subdrain Systems

The selection of types of subdrains depends upon the type of materials encountered, the type of development and the degree of assurance that the site will be safe for the intended use. It is the responsibility of the developer's staff to prepare a design and to justify the recommendations with topographical and geotechnical data and engineering analyses. The Geology and Geotechnical Engineering Development Review Section/Unit of the Materials Engineering Division must review the submitted documents and reports regarding the geotechnical basis and slope and design of subdrainage systems (see Chapter 49 of this Manual).

The following are descriptions and the potential usages for various types of subdrains commonly used:

A. Gravity perforated Pipe Subdrains with Filter and Drain Materials

The most prominent subdrains utilized in construction consist of a perforated pipe surrounded by layers of specifically graded granular materials and/or geotextiles. These subdrains must be designed in such a way that they will not become clogged by migrating fines and so they can be cleaned periodically. Subdrainage systems composed of rocks without perforated pipes (French drains/Buritto drains) are not permissible for permanent subdrain systems.

B. Hydraugers

A hydrauger consists of drilling a near horizontal hole from the base of the slope upwards into the materials to be drained. This often is the only practical or economical means for providing gravity drainage of an existing slope including a land failure. Once a failure has begun or adverse groundwater conditions become apparent, hydraugers are utilized as a last resort because the standard subdrain described in Item A above can not be utilized. Periodic maintenance is generally necessary.

C. Vertical Wells

Vertical wells can be used for either permanent or temporary dewatering. A vertical well consists of a drilled hole with a casing surrounded with a sand and/or gravel envelope designed to collect

water from the surrounding area. These wells are less desirable than hydraugers in that they are expensive to construct and maintain and can drain a small area in comparison with a nearly horizontal subdrain or hydrauger. They require power to operate and must periodically have their pumps overhauled and the well must be cleaned of algae, bacteria and sediment. Sometimes the gravel pack clogs preventing drainage and the well has to be flushed and/or replaced.

D. Weep Holes

Weep holes are used in relatively permeable areas to prevent excessive pore water pressures from building up behind retaining walls and channel structures. If the area is relatively impermeable, or if large volumes of seepage are anticipated, subdrains as described in Item A should be used.

E. Sand Drains, Wick Drains, Stone Columns, etc.

Sand drains, wick drains, stone columns, etc., are used in conjunction with surcharge fills to accelerate settlement of a site so that future development will not be adversely affected by subsequent settlement.

III. Minimum Design Guidelines

This Manual presents minimum standards for the design and installation of subdrainage systems. Design procedures required for projects to be owned and/or maintained by the County are presented in the Building and Safety/Land Development Geotechnical Design Manual. The following Chapters describe the procedures for approval or contain the minimum design criteria for all structures that might require subdrainage:

Chapter 14 - Grading Plan Check
Chapter 16 - Building Plan Check
Chapter 18 - Private Drain Plan Check
Chapter 19 - Drainage Benefit Assessment Areas
Chapter 20 - Miscellaneous Transfer Drain Plan Check
Chapter 21 - Road Plan Check
Chapter 26 - County Capital Projects
Chapter 38 - Dam Plans, Supporting Data and Inspection

The following are the specific design criteria for the various types of subdrains and generally require geotechnical verification of design during construction:

A. Gravity Perforated Pipe Subdrains With Filter and Drain Material

1. General Design Criteria

Gravity perforated pipe subdrains must be designed in accordance with the following procedure:

a. Identify the area that requires a subdrainage system.

b. Determine the route of the subdrain pipe from the outlet through the area to be drained.

c. Determine the maximum anticipated water flow, and its source.

d. Based on the design flow, establish the pipe size. Note that minimum acceptable pipe sizes are as shown in Item 2.b.3 on Page 39-6.

e. Design a subdrain outlet so that the outlet can be easily located and such that it will not be buried or destroyed in the future. Verify that there is adequate access to the subdrain outlet so that the subdrain pipe can be cleaned in the future. Also verify that the subdrain pipe is laid out in such a manner that cleaning equipment can reach the entire system.

f. Design a filter and drain system so that it can pass the anticipated volume of water through the subdrain pipe perforations into the subdrain pipe without the system becoming clogged by migrating fines. (See the Geotechnical Design Manual for design procedures.)

g. Typical subdrain cross sections must be placed on the plans. Typical examples of subdrain cross sections are shown as follows: Canyon subdrains on Pages 39-12 and 39-13, buttress or stabilization fill subdrains on Pages 39-14 through 39-19, minor slope repair on Page 39-20, stabilization fill on Pages 39-21, and a fill over cut slope detail on Page 39-22. It is noted that the above examples come from past submittals. The references to ASTM, Caltrans, NAVFAC, or other standards are acceptable only if the applicable standards are shown somewhere on the plans.

h. The locations of the pipe must be shown on a plan view of the construction plans.

2. Special Design Criteria

a. Backdrains for Buttress Fills

All backdrain design recommendations must be based on engineering principals as justified with a detailed analyses in a report. The design must contain the following items:

1/ Backdrains shall be installed in trenches or "V" ditches cut into approved ground at the back of each key excavation for a compacted fill buttress.

2/ If the vertical height of the fill slope exceeds 15 feet, another backdrain must be installed at the back of a bench cut into approved ground at mid-height of the slope. If the vertical height of the slope exceeds 25 feet, at least 2 backdrains must be installed above the key at equal vertical intervals. The vertical intervals between backdrains must not be greater than 15 feet, and a larger number of more closely spaced backdrains may be recommended to provide adequate drainage in materials that contain large volumes of water and low permeabilities (Aquacludes).

3/ Each trench or "V" ditch must be of sufficient width and depth that it can contain at least 3 cubic feet of specifically defined permeable material per lineal foot of drain.

4/ Each backdrain shall consist of a perforated pipe embedded in this permeable material and may be enveloped in a geotextile fabric (see Item 3 on Page 39-8). The consulting geotechnical engineer must recommend maximum pipe perforation sizes and also state the preferred location of these perforations. The perforated pipe shall be placed so that there is enough permeable material to surround the pipe by a least 6 inches on all sides.

5/ The pipe shall be at least 4 inches in diameter. Pipe used for backdrains should consist of any pipe meeting the requirements in Part L of the Additional Provisions of the Standard Specifications for Public Works Construction (Grey Book). Specification descriptions for pipe type and grain size gradations must be established by the consulting geotechnical engineer. However, the layout and given dimensions in the samples should be followed.

6/ At least one unobstructed outlet shall be provided for each backdrain. Backdrains more than 150 feet in length shall be segmented, and an outlet shall be provided for each segment no more than 150 feet in length. An outlet shall consist of an unperforated pipe of the same diameter, connected to the perforated pipe, and extended on a continuous gradient of at least 2 percent into the finished face of the fill slope for at least four feet. The outlet pipe shall protrude at least 6 inches from the face of the slope.

7/ Upper backdrains shall be connected to the lower backdrains by downdrains located no more than 200 feet apart in horizontal distance. As an alternative, a continuous or intermittent gravel chimney drain extending no more than 15' above the perforated pipe and hydraulically continuous with the lower backdrain could be installed along the backcut (see sample on Page 39-19).

8/ The backdrains shall be sloped at a minimum 2% gradient to a collection sump box. Water collected in the sump box must be pumped to the ground surface and discharged into the storm drain system or conveyed away from the area before it can overflow and saturate the surrounding materials. Sump boxes are not allowed without periodic inspection and maintenance by a responsible agency.

b. Canyon Fill Subdrains

Canyon fill subdrains must be designed so that they can collect all water seeping to the bottom of the fill and remove this water from the area. The following are basic design guidelines that must be met (See examples on Pages 39-12 and 39-13).

1/ Canyon fill subdrains shall be installed in a trench or in a "V" ditch cut into stable ground exposed in the lowest portion of the excavation produced by removal of unsuitable earth materials from the canyon. The trench or "V" ditch must be inspected and approved by the Department of Public Works. The trench or "V" ditch shall be of sufficient width and depth that the drain pipe is enveloped with a minimum of 12 inches of specifically designed drain materials. Filter material may be required between the fill and/or natural materials and the drain materials to prevent clogging. If required, specific design analyses shall be required (See Geotechnical Design Manual). The gradient of the drain pipe shall be at least 2% but may have to be steeper to insure adequate drainage.

2/ Each canyon fill subdrain shall consist of a perforated pipe embedded in permeable material and may be enveloped with a geotextile fabric (See Item 3 on Page 39-7). Pipe perforation size and the location of the perforations in the placement of the subdrain pipe must be established by the consulting geotechnical engineer.

3/ The pipe used shall be at least 4 inches in diameter and larger where groundwater conditions require increased capacity or where the length of the drain exceeds 200 feet. Minimum acceptable diameters of pipes for subdrains of greater length are specified below:

4" diameter - within 200 feet of upstream terminus.
6" diameter - between 200 feet and 400 feet from upper end.
8" diameter - between 400 feet and 800 feet from upper end.
10" diameter - between 800 feet and 1200 feet from upper end.
12" diameter - between 1200 feet and 1600 feet from upper end.

4/ The permeable material shall be covered with compacted fill meeting the requirements of Title 26 of the County Code, Standard Specifications for Public Works Construction or other acceptable criteria defined by the consulting engineers in their reports. Each canyon fill subdrain should be terminated where the fill in the upper reach of the canyon will be no more than 10 feet deep to minimize infiltration of surface water.

5/ An unobstructed outlet shall be provided at the lower end of each canyon fill subdrain. An outlet shall consist of an unperforated pipe of the same diameter, connected to the perforated pipe and extended to an outlet point at a lower elevation on a continuous gradient of at least 2 percent.

6/ Subdrain pipe should consist of perforated pipe, in accordance with the requirements of Part L of the Additional Provisions to the Standard Specifications for Public Works

Construction. Perforations should be no more than 1/2 inch in diameter. Perforation sizes must be determined by the consulting geotechnical engineer so the migration of the adjacent materials through the perforations into the drain pipe will be minimal (See Geotechnical Design Manual).

c. Retaining and Channel Wall Backdrains

1/ For rectangular channels, the subdrainage system must be in accordance with the Department's Standard Plan No. 2-D295.

2/ For trapezoidal channels the above standard plan applies to the channel bottom. For the sides, the levee criteria on Page F-30 and F-34 of the Department's Hydraulic Design Manual applies.

3/ Retaining walls may have weep holes or perforated pipe subdrains as described in Item a. In the case of weep holes, spacing must be no greater than 6 feet and there must be a specified detail showing a wire mesh (hardware cloth) covering the inside portion of the weep hole with a minimum of 12 inches of specifically designed drain material and if necessary, a minimum of 6 inches of specifically designed filter material between the drain materials and the fill and/or natural materials.

3. Substitutions Using Geotextiles, etc.

Subdrains utilizing geotextiles may be used in lieu of either filter or drain materials. The consulting geotechnical engineer will have to demonstrate that the proposed substitution will perform as intended by not clogging up with migrating fines and by passing the anticipated flow of water in order to prevent drainage failure within the intended life of the system. In general, geotextiles must not come in contact with materials having a grain size gradation with more than 30% passing the #200 sieve.

Substitutions utilizing newly developed materials such as plastic grids behind walls or near footings may be acceptable, if the geotechnical engineer can demonstrate to the Department's satisfaction that the material will perform as intended for the life of the structure.

B. Hydraugers

The following is a guide for the placement of hydraugers:

1. Subdrain pipe meeting the criteria described in Item A.2.b.6 on Page 39-6 must be used. It is the responsibility of the geotechnical consultants to establish a pipe wall thickness to withstand the forces used to insert the pipe into the hole. Specific methods are described in the Geotechnical Design Manual.

2. Spacing of hydraugers are to be based on the location of productive zones where the water occurs rather than an even spacing. Hydrauger spacing shall be no greater than 100 feet in productive ground water zones. Spacing shall be reduced depending upon the volume of water produced and the permeability of the area to be drained. (See the Geotechnical Design Manual.)

3. Hydrauger length is governed by the intercepting of water bearing strata that is creating a hazard, rather than on a predetermined length. See the Geotechnical Design Manual regarding the procedures for establishing hydrauger lengths and modifications of future hydraugers.

4. The minimum grade for a hydrauger is 3 percent. See the Geotechnical Design Manual regarding obtaining optimum grades.

5. Approximately twenty (20) lineal feet of non-perforated pipe shall be placed as the last length of pipe closest to the surface in a hydrauger boring.

6. A non-perforated pipe sleeve which allows the drilling equipment and subdrain pipe to pass through shall be installed in the first ten feet of hole.

7. A collection system that removes from the area of all flows coming from the hydraugers must be provided under the direction of a Civil Engineer.

8. The annular space between the drilled boring wall and the non–perforated pipe section shall be tightly plugged with earth or grout for a length of at least 2 feet upslope from the outlet end of the boring.

9. Adequate access space of about eight feet square in front of the hydrauger outlet should be provided for future inspection, operating cleaning equipment and drilling equipment for a replacement system.

10. Hydraugers should be placed whenever possible, outside of unstable area in order to avoid their destruction due to earth movement which reduces their effectiveness. Broken or damaged pipelines anywhere in the system may cause undesirable re-entering of ground water into the unstable area.

11. Hydraugers should be installed as perpendicular as possible to the direction of ground movement, in order to intersect more of the cross-sectional area containing ground water.

12. The owner must be prepared to periodically replace hydraugers that become ineffective. A hydrauger system requires frequent inspection, maintenance and often major repairs and/or partial replacements.

C. Vertical Wells

Vertical wells should only be used when horizontal drains described in Items A and B cannot be used (See Design Manual for design criteria). The following design guidelines should be considered:

1. Establish the maximum elevation to which the desired water level can rise.

2. Set the depth of the well, usually 30 feet below this designed water level established in Item 1.

3. The diameter of the wells should be no less than 24 inches.

4. The well casing inside diameter should be no less than 12 inches. The pump may have to operate from within the well casing.

5. The perforations including round holes and/or slots must be designed in a similar manner as described in Items A and B beginning on Page 39-3 so that migrating fines will not collect at the bottom of the well or will not go into solution with the water and cause damage to the pump impellers.

6. A gravel pack must be placed between the casings and the outer surface of the hole. This gravel pack must be designed in accordance with the principles described in the Geotechnical Design Manual.

7. The estimated volume of water to be collected in the well must be established so that a pump with sufficient capacity to remove the water can be installed.

8. Controls that operate the pump switches must be installed and adjusted to meet the intended dewatering criteria.

9. The design of the electrical system to operate the pump must be done by an electrical engineer.

10. A flowmeter on the pump should be installed so that records can be kept on the volume of water being discharged and removed from the area.

11. A discharge system must be designed to carry the pump flow away from the area that is being dewatered.

Once the well has been completed and is ready for operation, readings on the flowmeter must be taken to determine the effectiveness of the well along with water elevations from nearby monitoring wells. Records must be checked continuously to determine the continued effectiveness of the well. Periodically the well may have to be cleaned out and have the algae, bacteria or mineral deposits removed so that adequate drainage can continue.

D. Temporary Drainage Systems

The previously described systems may also be used fairly successfully for temporary drainage systems. In addition, there are several proprietary procedures designed to obtain quick dewatering and soil compression to eliminate or reduce total anticipated time for settlement to occur prior to project construction. Several of these devices are sand drains, wick drains, stone columns, etc. Design procedures for these systems should be left up to the manufacturer or the proprietor. These generally temporary systems can only be utilized prior to or during construction. They can be used in conjunction with surcharging the surface with an additional fill load to accelerate the soil compression. Settlement monitoring is required to be determined if the anticipated results have been achieved.

IV. Subdrainage Systems Installation Guidelines

The subdrainage system shall be installed at the locations, grades and to the slopes and depths shown on the approved plans.

A. Gravity Perforated Pipe Subdrains With Filter and Drain Material

Gravity perforated pipe subdrains with filter and drain material installed in embankment foundations shall be completed before any embankment fill material is placed over the subdrains. Subdrains installed on benches in excavated buttress or stabilization fill slopes must be completed before any fill reaches that elevation and before any excavation is made more than 40 feet below the elevation of the bench where the drains are to be installed. The designer must consider the location and slope of the discharge pipe when locating the subdrain. The subdrain outlet must be in accordance with Item C. (The purpose of the latter requirement is to avoid potential erosion problems due to outlet discharges flowing down a slope steeper than 8 horizontal to 1 vertical.)

B. Hydraugers

Hydrauger installation requires continuous inspection by either a Civil Engineer, preferably a Geotechnical Engineer, or an Engineering Geologist. The following criteria must be met:

1. During drilling operations, elevation of the drilled boring at 100-foot intervals and also the elevation at the terminus of the completed drain shall be determined. This information must be shown on the as-built plans.

2. Water used for drilling and water developed during drilling operations shall be disposed of in such a manner that no damage will result to the work or the surrounding area.

3. The quantity of water that is produced or drained at the time of installation may not be a good measure of the sustained flow that will occur upon flow stabilization. Drainage flow rates should be plotted to determine the recession curve and the effectiveness of the installation.

C. Subdrain Outlets

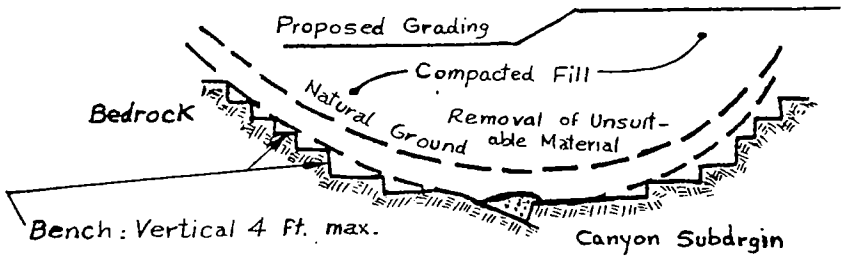
As noted elsewhere in this chapter and in the Geotechnical Design Manual, water discharging from a subdrain system must be carried from the area in a safe manner.

If the water is to be discharged into a closed storm drain system, it must be done at a catch basin or a manhole under gravity flow conditions to the satisfaction of the Drainage and Grading Section (See Chapters 30, 36 and 37 of this Manual).

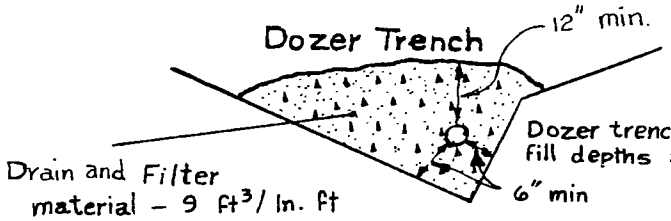
V. Subdrainage System Maintenance Guidelines

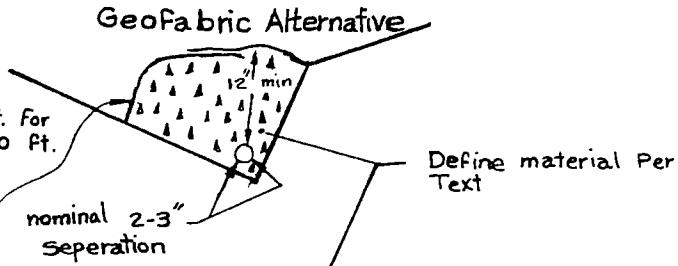
A subdrain maintenance program should be established with provisions for annual inspections and for cleaning and repair of any damaged outlets or collector pipe systems.

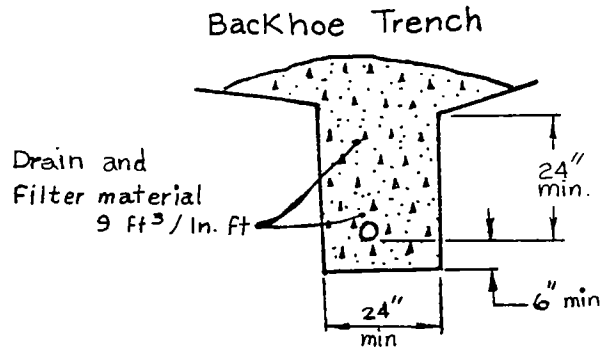
In establishing this program, the designer must define conditions under which specific actions to protect the site must be taken. An organization that is satisfactory to the Department must be selected and funded to be in responsible charge for making engineering decisions for preserving the system. The Design Manual will describe maintenance methods used by this organization under the direction of a registered civil engineer. A special maintenance district can be established under the control of the Department and the Department can perform these services. (See Chapter 19.)

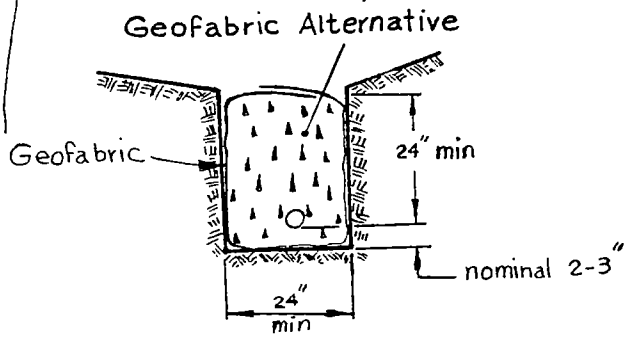


Drains along Canyon Walls as recommended by the Geotechnical Consultant
Install as-needed Per buttress backdrain detail.





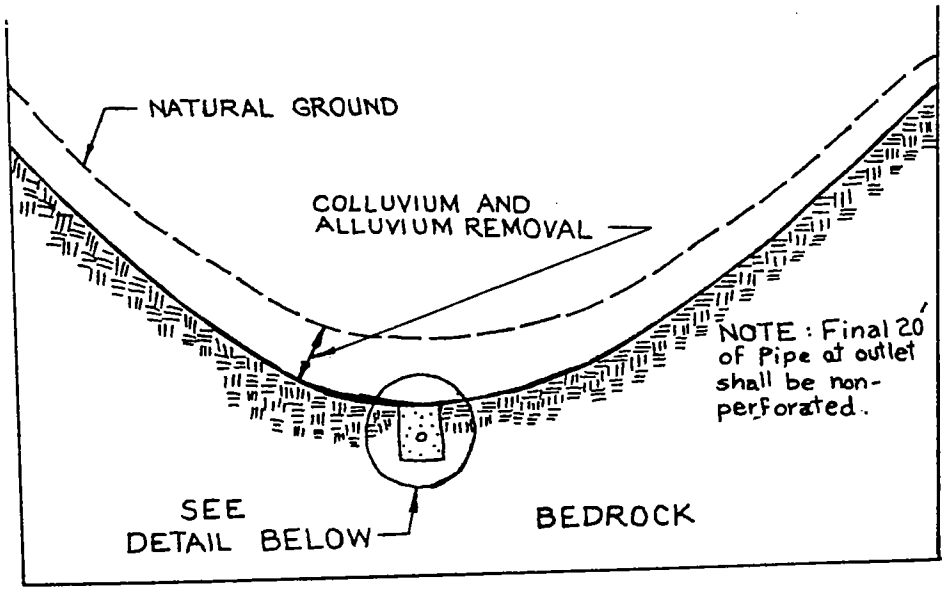


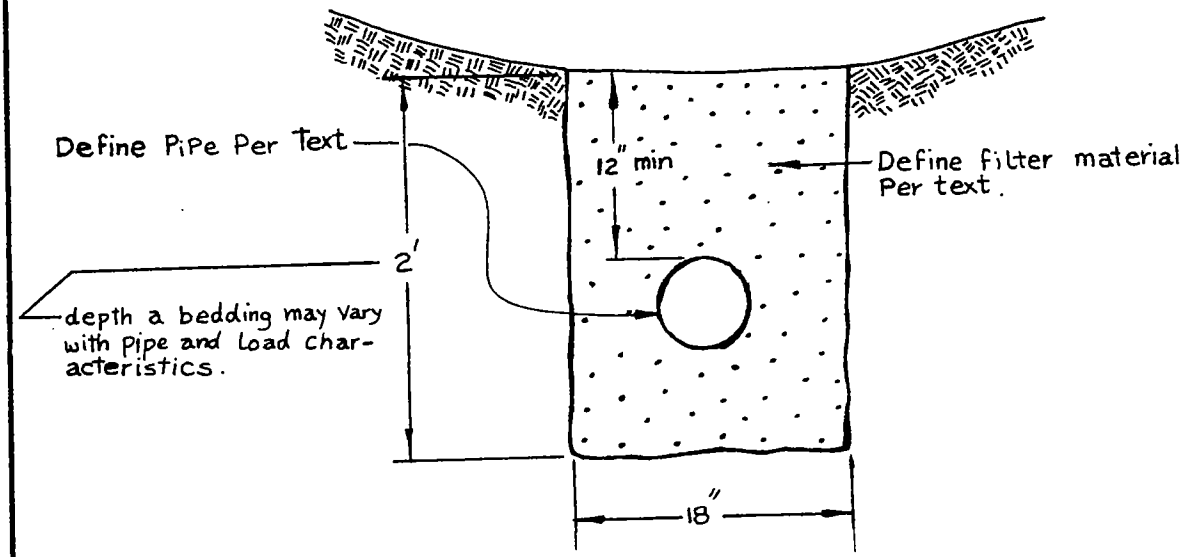


Notes:

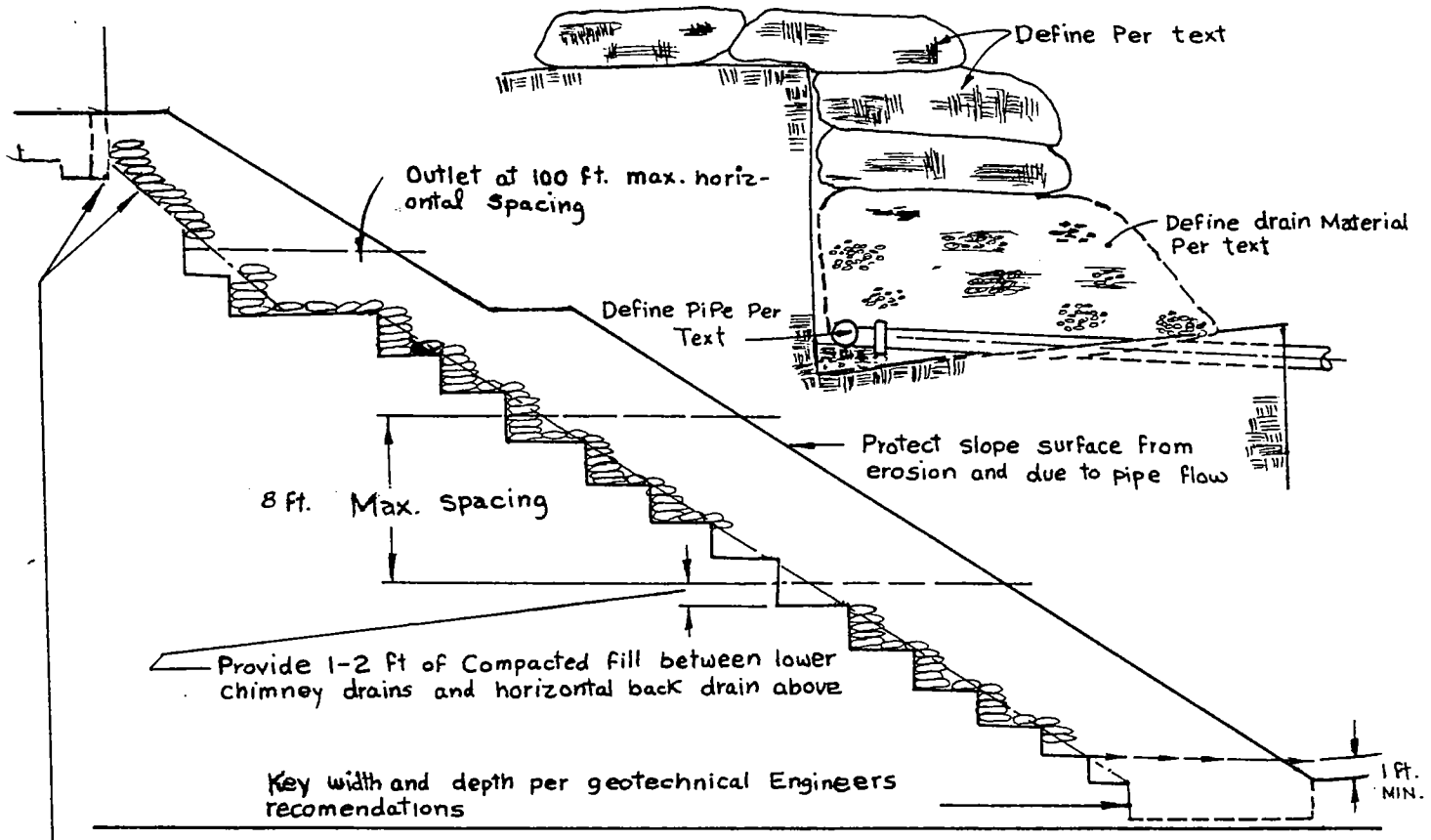
1. Pipe shall be (Define per text).
2. Pipe shall be scheduled 40 PVC or similar. Upstream ends shall be capped.
3. Pipe shall have (Define perforations per text).
4. Drain material shall be (Define gradation per text).
5. Filter material shall be (Define gradation per text).
6. Appropriate gradient should be provided for drainage; 2% minimum.
7. Geofabric shall be (Define Geofabric per text).

PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Canyon Fill Drains
SCALE	



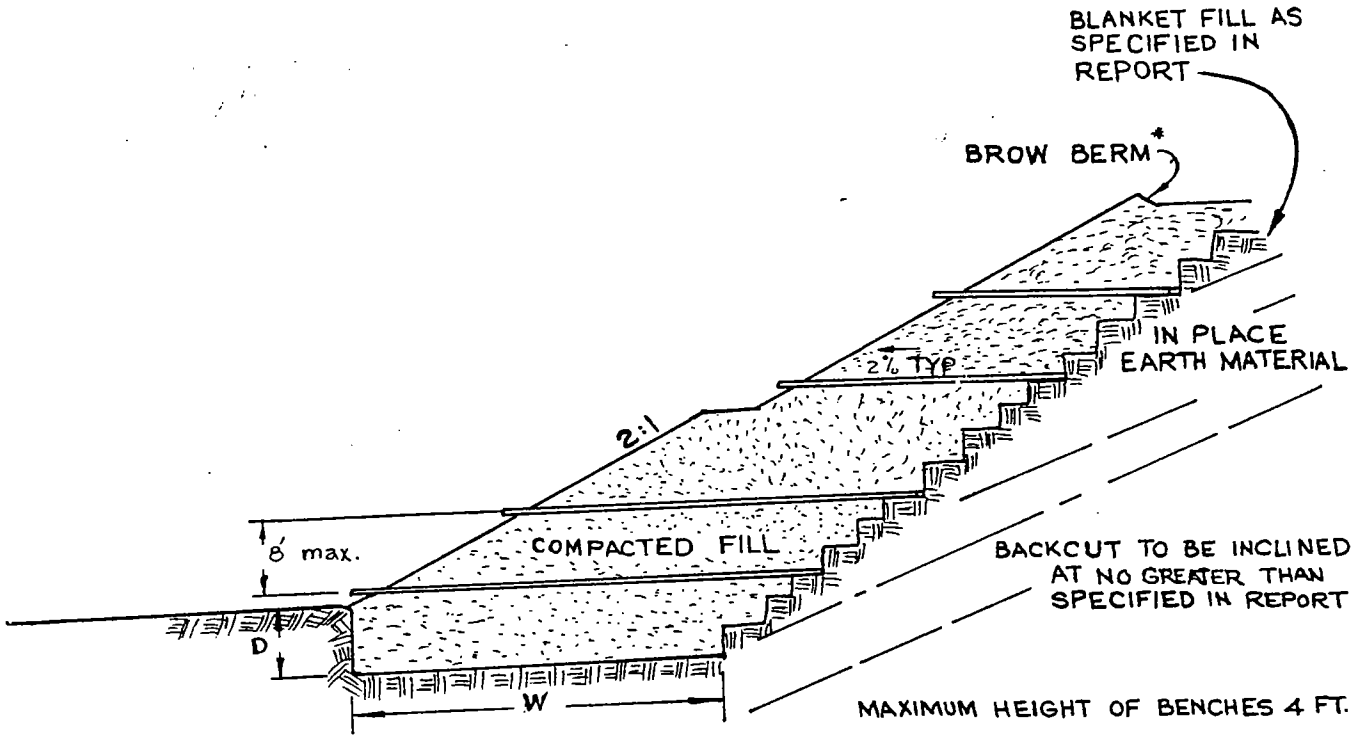


PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System
SCALE	Typical Canyon Fill Drain Detail



Do not elevate closer than 18 inches to bottom of adjacent foundation. The steepness of the excavation below the foundation should be limited to 1:1 (horizontal to vertical slope ratio). Contractor should confirm foundation configuration and inform Geotechnical Consultant prior to proceeding with excavation.

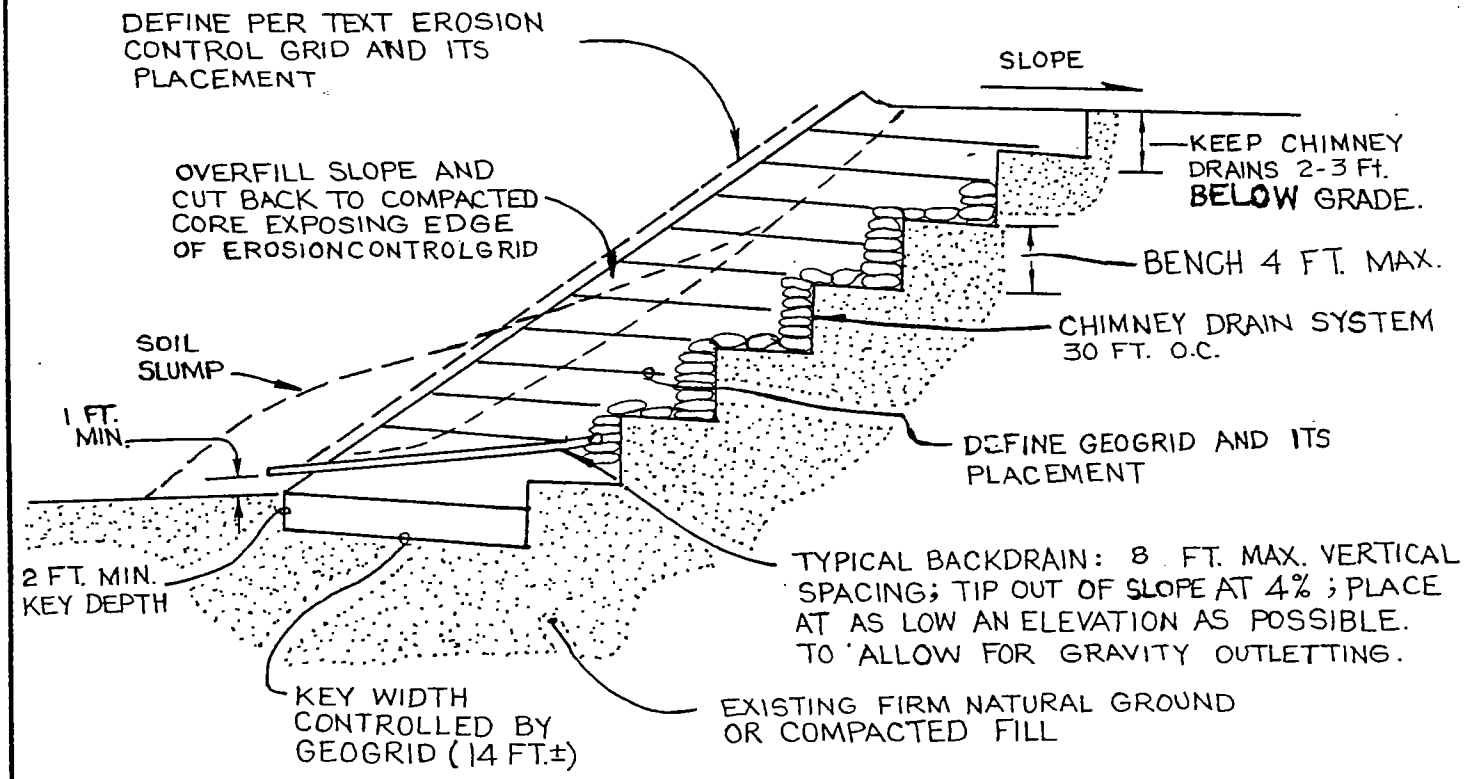
PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Chimney Drain System
SCALE	



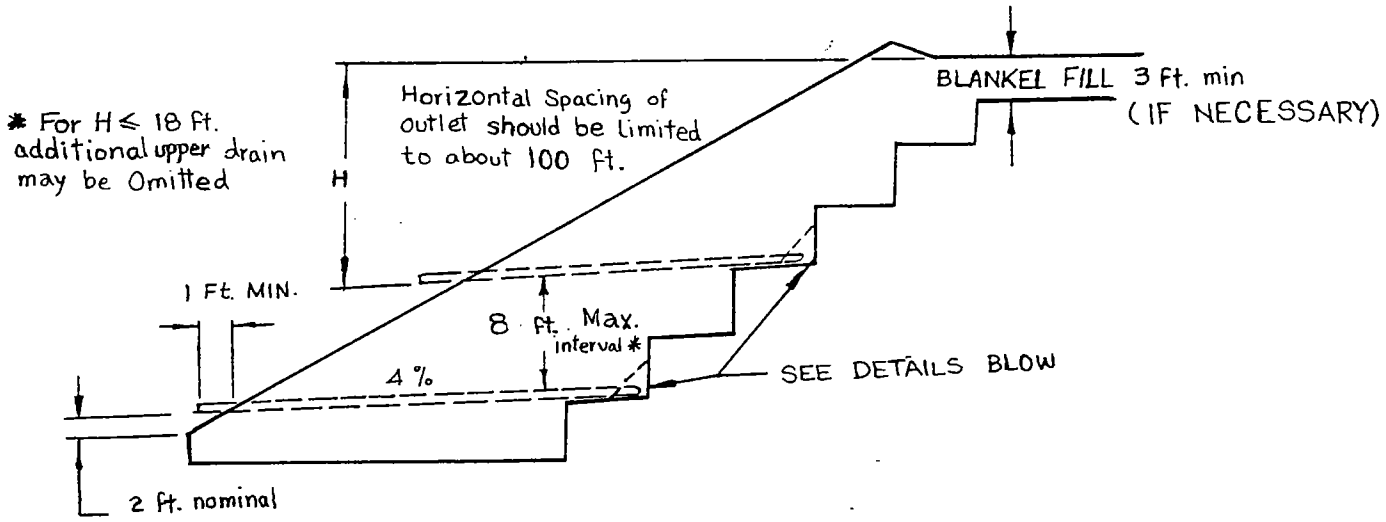
SHOW WIDTH AND DEPTH OF BUTTRESS KEY AS SPECIFIED IN INVESTIGATION REPORT. ENTIRE KEY IN FIRM EARTH MATERIAL

* Brow berm shall be a minimum of 1 foot high and slope 4 feet from the top of berm (See detail "D", page 30-38, Chapter 30)

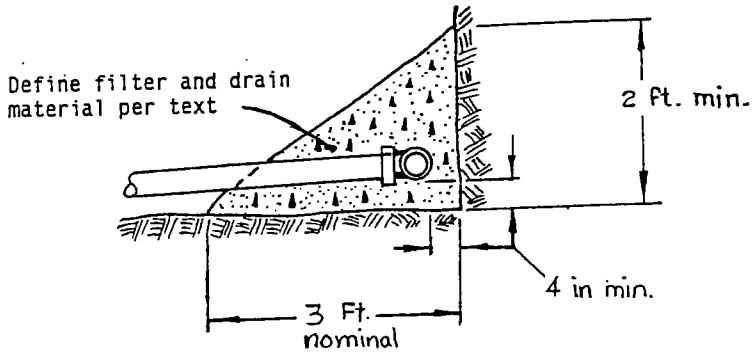
PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Typical Buttress Fill
SCALE	



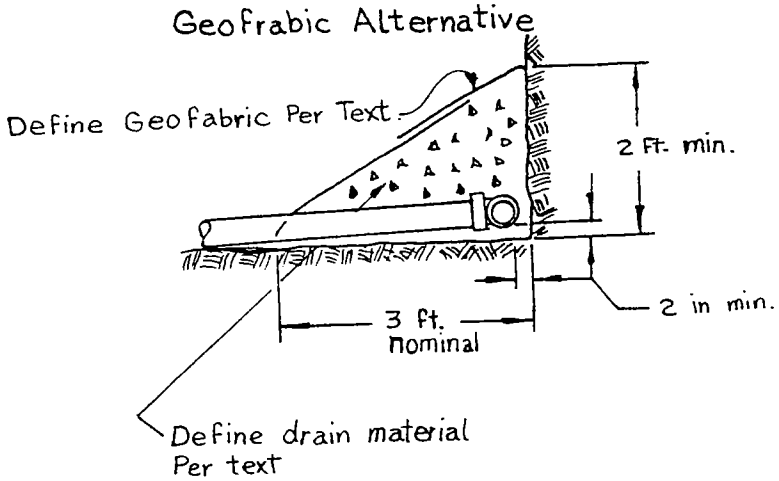
PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Minor Slope Repair
SCALE	



Conventional Backdrain



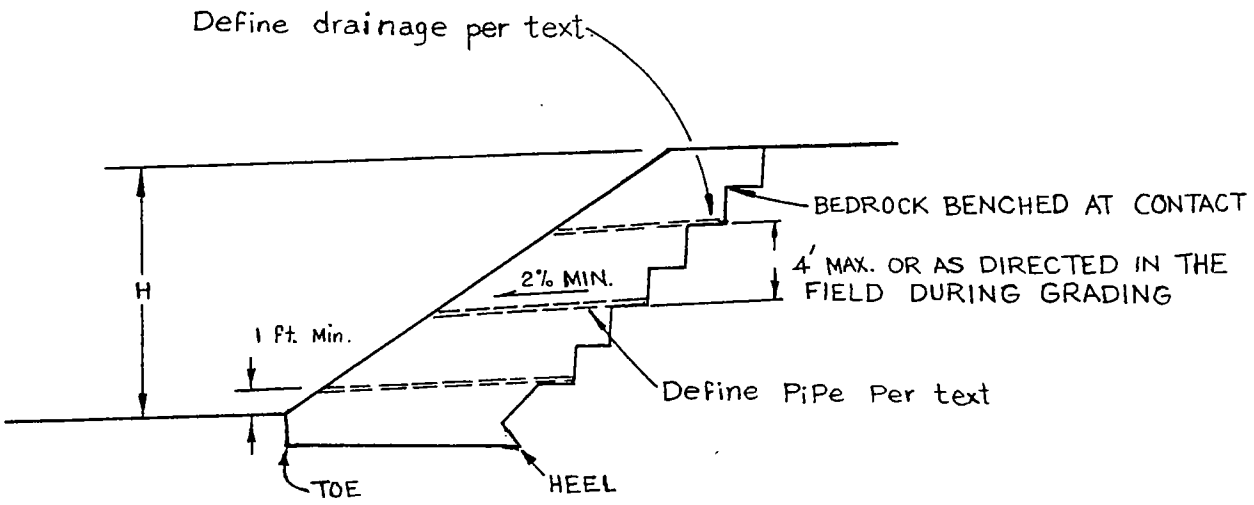
Geofrabic Alternative



Notes:

1. Pipe shall be (define per text).
2. Gradients shall be 4% or greater.
3. Cap all upstream ends.
4. Trenches for outlet pipes shall be backfilled with compacted notive soil.
5. Backdrain pipe shall have (define perforations per text). Outlet pipe shall be nonperforated.
6. At each outlet the geofabric shall be approximately overlapped (1 ft.) of cuts in fabric or otherwise scaled or taped around the pipe (per manufacturing recommendation).

PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Buttress Backdrain System
SCALE	



Notes:

1. Buttress and stabilization fills to be placed and compacted to a minimum relative compaction of 90% of the laboratory standard (See text).

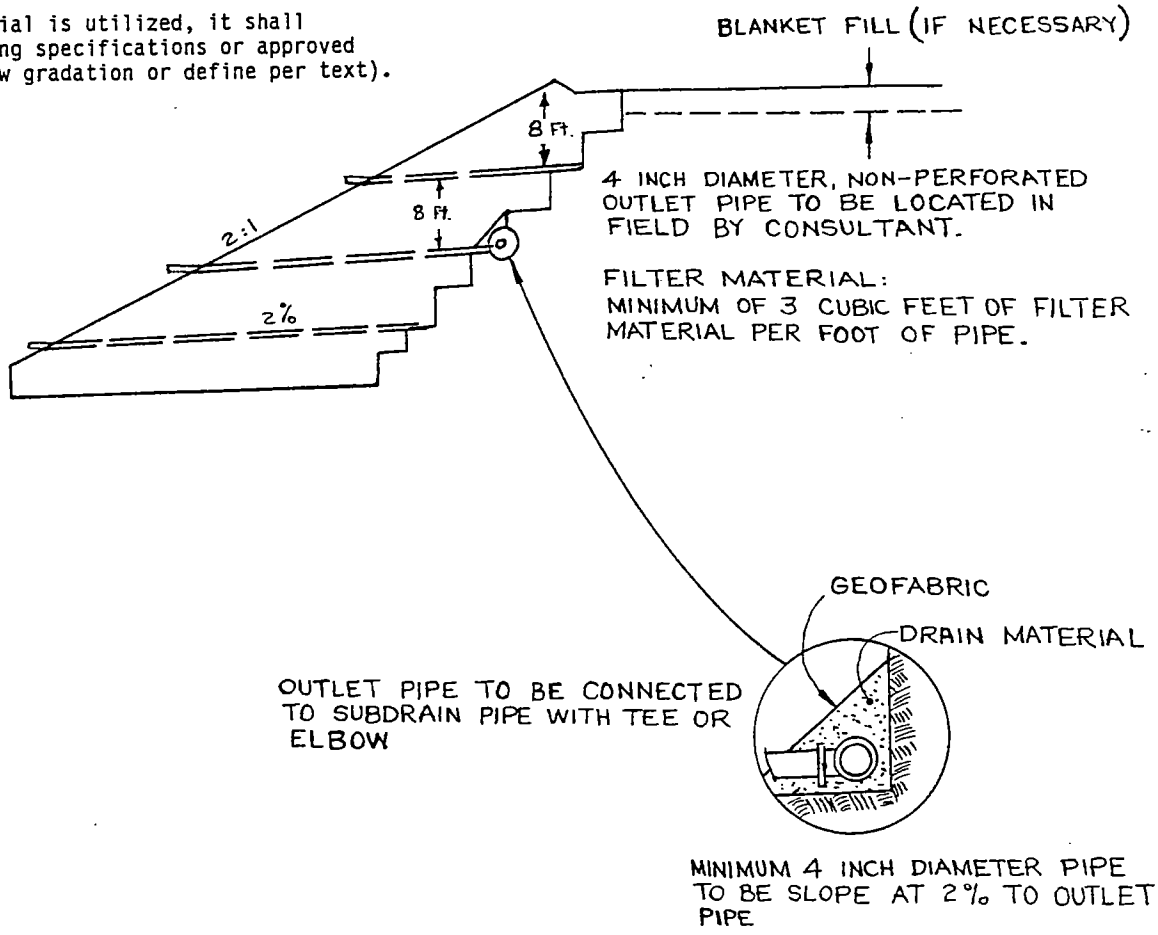
2. A 3 foot blanket seal with a permeability of less than than 3×10^{-6} Cm/Sec. shall be placed in all pads above and adjacent to buttress and stabilization fills.

3. Construct drainage terraces in accordance with requirements of Chapter 70 of Title 26 of Los Angeles County Code.

PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Typical Backdrainage Detail
SCALE	

If a filter material is utilized, it shall meet the following specifications or approved equivalent (Show gradation or define per text).

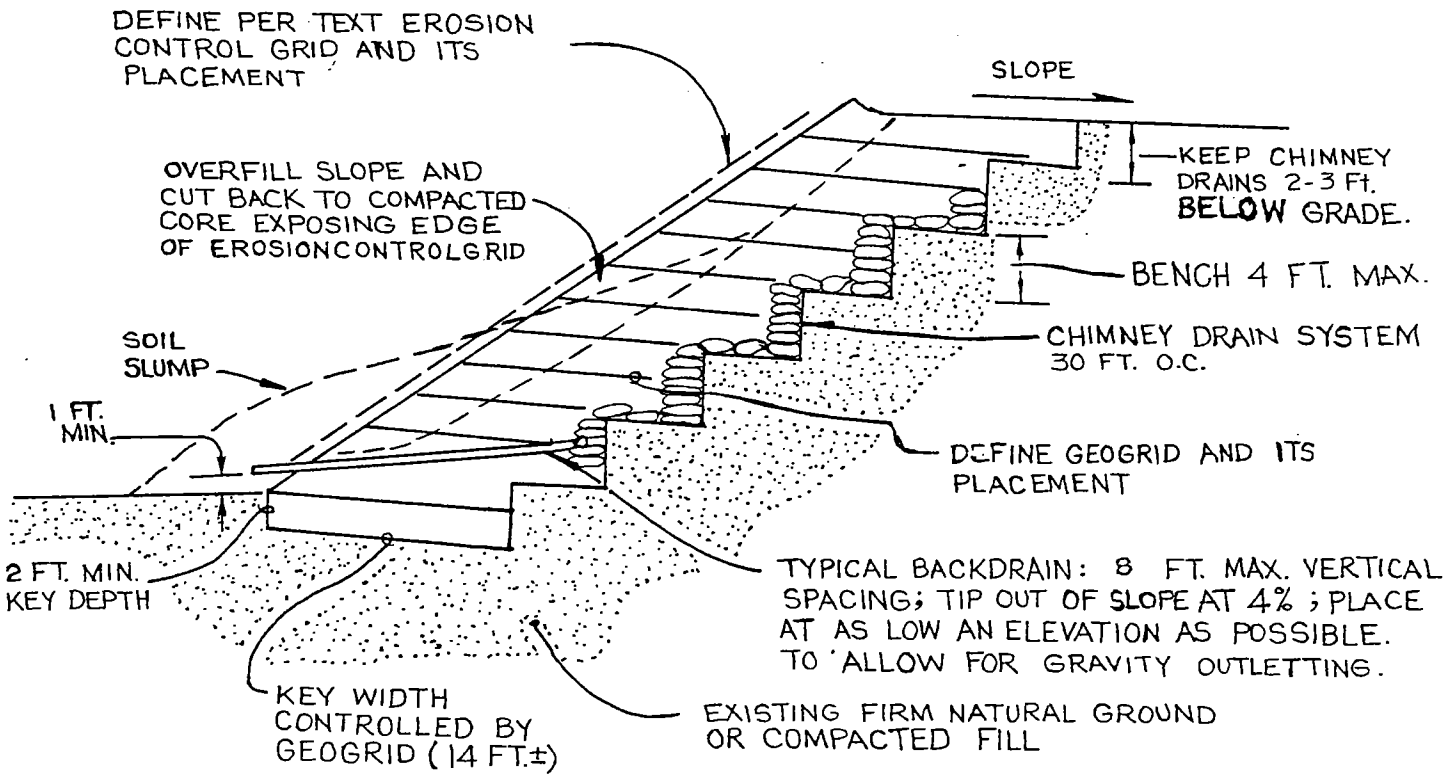
If a drain material is utilized, it shall meet the following specifications or approved equivalent (Show gradation or define per text).



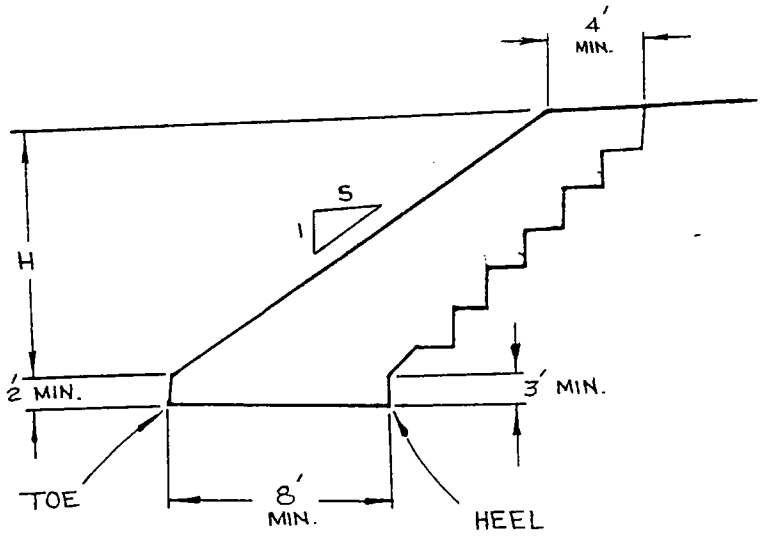
Notes:

1. Trenches for outlet pipes to be backfilled with on site soil.
2. The necessity for outlet pipes to face of slope and upper stages of backdrains shall be determined during construction by the Geotechnical Engineer.
3. Geofabrics shall be (define per text).
4. Perforated pipe shall be (define per text).
5. If a geofabric is used, it shall be lapped a minimum of 12 inches on all joints or bonded in accordance with the manufacturer's recommendations.

PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Typical Backdrain
SCALE	



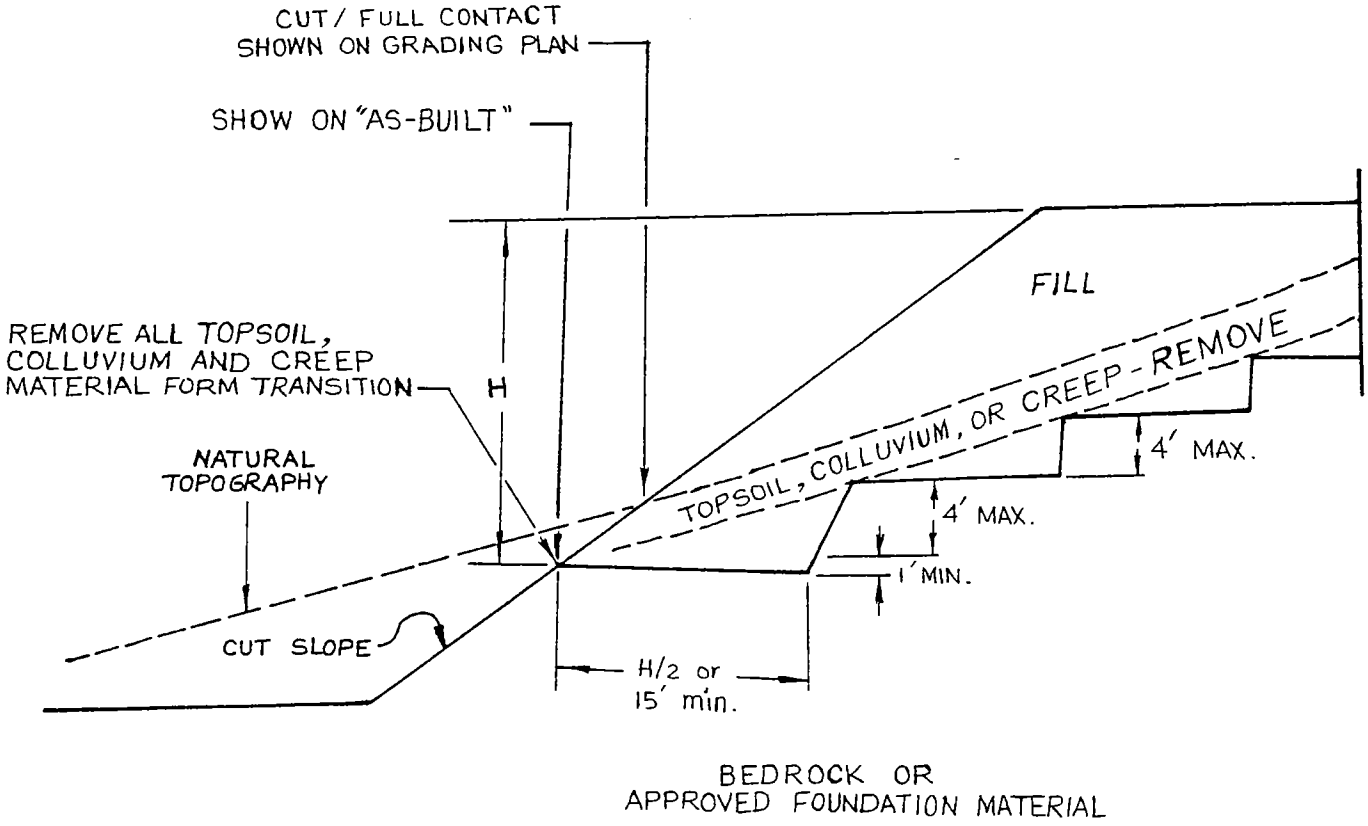
PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Minor Slope Repair
SCALE	



Notes:

1. Stabilization fill to be placed and compacted to a minimum relative compaction of 90% of the laboratory standard
2. A 3-foot blanket seal shall be placed in all pads above and adjacent to stabilization fills.
3. Construct drainage terraces in accordance with requirements of Chapter 70 of Title 26 of the Los Angeles County Code.
4. Provide drainage details in accordance with page 39-16 or 39-17.

PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Typical Stabilization Fill Detail
SCALE	



Note:

Install subdrain system in fill in accordance with drawings on pages 39-14 through 39-18.

PREPARED	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
DATE	Subdrainage System Typical Fill over Cut Slope Detail
SCALE	

CHAPTER 40

DETENTION BASIN PLANS AND SUPPORTING DATA

Detention basins consist of facilities in which the peak runoff upstream is stored during the period that the downstream facilities contain flows at design Capacity. Later, when the downstream flows are reduced, the basins are slowly drained. A detention basin, acting as a sump, may be a pit in the ground or may have a dam serving as a barrier. If there is a dam, the design of the dam portion is described in Chapter 38 of this Manual. The procedure for approving a detention basin is in accordance with that for a private drain which is described under Chapter 18 of this Manual, or that for a miscellaneous transfer drain which is described under Chapter 20 of this Manual. Minimum standards for establishing a private drain or a miscellaneous transfer drain are described in Chapters 36 and 37 of this Manual, respectively. General design criteria for detention basins are as follows:

A. Hydrology

Hydrology calculations shall be done in accordance with the requirements of Chapter 34 of this Manual. In addition, flood routing through the detention basin must be done to determine the capacity of the basin.

B. Size

The detention basin must be designed to store the difference between inflow versus outflow for the design flows with two feet of freeboard. Flow volumes are calculated through the Department's Modified Rational Method, which is described in Section 4.B of the latest (December 1991) Hydrology and Sedimentation Manual. Adequate storage for any anticipated debris must also be included (see Chapter 41 of this Manual). It is preferred, however, that the debris area be separated from the detention area.

C. General Design Criteria

1. Provide adequate energy dissipation for inflows to prevent scour and erosion of the basin invert and side slopes; this may require construction of energy-dissipation structures, adequate riprap or concrete liming with additional cover over the steel.

2. The basin should be self-draining and include a reinforced concrete low-flow swale or low-flow bypass system to minimize nuisances associates with low to moderate storm flows and summer flows.

3. The inlet to the outflow drain shall include a standard trashrack or a swinging protection barrier per the Department's Standard Plans. For added safety, a secondary overflow path shall be provided in case the inlet plugs. For combined detention/debris basin concepts which utilize a rail and timber structure for debris containment, vertical concrete riser may be required as an auxiliary outlet if a secondary overflow path is not feasible.

4. Self regulating devices such as "The Hydrobrake" may be used in special situations to regulate the outflow under varying head if approved by the Department.

D. General Criteria

1. Submit a Soils and Geology Report (see Chapter 49 of this Manual) and the requirements of the Department Debris Dams and Basins Manual in addressing the adequacy of side slope stability, effects of rapid drawdown, infiltration and percolation, seepage, and possible effects such as land settlement and increased groundwater recharge.

2. Provide maximum 3:1 side slopes unless the soils report can verify stability at steeper slopes.

3. Provide a reinforced concrete facing slab as specified in Chapter 41 of this Manual including a 5-foot cutoff along the face of the basin where the outflow drain inlet is located.

E. Access and Fencing Requirements

1. Provide security fencing per APWA Standard Plan No. 600-0.

2. Provide a 12-foot-wide minimum concrete access ramp to the bottom of the basin. Maximum grade into the basin shall be 12 percent.

3. Provide a paved vehicular access road along the crest of the detention basin, and to all slopes that must be maintained by the Department.

4. Provide a minimum bottom dimension of 20 feet.

F. Special Uses

Some detention basins may be used for park purposes during the dry season (a typical example is Pan Pacific Park). Design criteria must be established so that the facilities will not pose a hazard to public health and safety. This includes a procedure for closing the basin to public access during stormy weather and that the materials within the detention basin will not create a operational hazard. This includes lifting benches and other playground objects which could be destroyed and end up on the trashrack. The related recreation facility maintenance must also meet the requirements of the County's Department of Parks and Recreation or the jurisdictional city. A special maintenance agreement may be required as a condition of approving the dual use of such detention basins.

CHAPTER 41

DEBRIS BASIN PLANS AND SUPPORTING DATA

DRAFT

Debris basins are designed to impede and retain mud and debris during a storm. After the storm, the debris is removed utilizing properly designed access roads and ramps for expedient cleanouts to ready the facility for the next inflow. The basin acting as sump may have a dam serving as a barrier (preferable design) or may be a pit in the ground. If there is a dam, the design of the dam must meet the requirements described in Chapter 38 of this Manual. The procedure for approving a debris basin is in accordance with a private drain which is described under Chapter 18, or a miscellaneous transfer drain which is described under Chapter 20 of this Manual.

Debris basins must meet the hydrology requirements described in Chapter 34 of this Manual and the appropriate design criteria described in the Department's Dams and Debris Basin "Blue Book" Manual. The information described below is to clarify certain parameters for small to medium sized facilities.

Debris control facilities may be required depending on the debris potential of a watershed, the type and extent of vegetation, and topographic features. Further evaluation of the cumulative amount of debris potential tributary to the new storm drain as well as the acceptability of the downstream existing outlet must be evaluated in establishing the need for debris control.

A. Debris Volume Determination

Two factors must be considered when computing the debris volume requirements. They are as follows:

1. Surface Erosion

The debris potential is determined by utilizing the Department's Hydrology Design Manual. This involves locating the watershed on the appropriate hydrologic maps (see Pages C-14 through C-95 of that Manual) and obtaining the debris potential area rating (ex. DPA 1, 2, 3, etc.). Knowing the Debris Production Area and acreage of the drainage area, the debris potential rate is read directly from the graph on Page C-132.

2. Landslide Debris

Land Development Administrative Memo GS101 directs that when a debris basin is impacted by the proximity of a landslide, as an alternative to stabilizing the landslide in accordance with County standards, the developer may be allowed to enlarge the basin capacity to accommodate the total amount of anticipated material from the landslide as well as the design volume for debris control (Item A above). (See Chapter 61 of this Manual.) The debris contribution from the landslide shall be the total landslide volume less any part that will not impact the basin because of natural or constructed mitigation measures.

The type of debris control facility required will be based on the total anticipated material from the landslide plus the design volume for debris control. The projected geometry of the slide must be such that it will not adversely impact the ability of the basin to perform it's primary function. Also, a "309 statement" must be provided by both the Geotechnical Engineering and Geology Consultants in their reports that the design is safe and that there will be no adverse impact on off-site properties (see Chapter 61 of this manual for a copy of the memorandum).

The volume of the debris basin must be to the satisfaction of the Department of Public Works. The Department considers anticipated maintenance costs for those basins, which the Department will maintain when approving basin layouts.

B. Debris Facility Design

The type of debris control facility can generally be determined as follows:

1. Type of structures are determined using criteria set forth in Hydrology and Sedimentation Manuals. In general, they follow these guidelines:

Debris Production Volume (cubic yards)	Requirement for DPA 1, 2, 3, 4, Zones	Requirement for DPA 5, 6, 7, 8, 9, 10, 11 Zones
Greater than 20,000	Standard Debris Basin	Standard Debris Basin
Less than 20,000 to 5,000	Standard Debris Basin	Elevated Inlet
Less than 5,000 to 1,000	Elevated Inlet	Desilting Inlet
Less than 1,000 to 250	Desilting Inlet	Inlet with bulk flow storm drain
Less than 250	Inlet with Bulk Flow Storm Drain	Inlet with Bulk Flow Storm Drain

2. Facing slabs for debris dams are required to be 6-inch concrete or gunite with No. 5 reinforcing steel at 18-inch spacing each way with a cutoff wall as shown on Page I-8 of the Debris Dams and Basins Manual.

3. Access roads to debris basin structures with capacity less than 20,000 cubic yards must have 12-feet wide paving (3-inch AC on 4-inch CAB) with a minimum centerline horizontal radius of 40 feet, located within a 15-foot minimum width easement.

4. Access ramps into bottom of debris basins can be unpaved ramps for slopes less than 10 percent. Paved ramps (3-inch AC on 4-inch CAB) are required for slopes between 10 percent and 12 percent. No slopes steeper than 12 percent are allowed.

5. Upstream and downstream embankment slopes must be less than or equal to 3 Horizontal to 1 Vertical or less. Steeper slopes may be used if a Geotechnical Engineer can show that the slope will meet County "Minimum Standards for Slope Stability" and be stable when utilized as a dam. (See Chapters 38 and 49 of this Manual.)

6. Embankment dam crests must be 20-feet wide and paved with 3-inch AC. The width may be reduced to 15 feet if it can be shown by a Geotechnical Engineer that the dam will be stable. (See Chapter 38 and 49 of this Manual.)

7. In DPA Zones Nos. 4 through 11 where upstream development is expected, as determined be Department of Public Works, corrugated metal pipe outlet towers may be used. The maximum height of such tower is 10 feet, and the minimum tower diameter is 48 inches. A concrete tower base is required per Standard Drawing No. 2-D 404 in the Debris and Basins Design Manual on Page I-30. This drawing must be modified to permit the drain pipe to extend beyond the riser to an external cleanout opening with a steel plate cover. The riser shall be securely fastened to the base with fastening details that allow riser replacement without significant modifications to the base. The tower shall have a top trashrack with provision for access through the rack.

8. The storage capacity of the basin shall retain the calculated debris potential volume from upstream surface erosion and landslide debris as established in Item A at a deposition slope of one-half of the natural stream bed slope. Level surface storage slope will be required for pit type Debris Basins.

9. The need for debris posts to protect the elevated inlet from plugging is determined by the amount and type of debris upstream of the inlet and will be evaluated on a case by case basis.

10. Establish basin capacity to handle material deposits in accordance with Item A above.

C. Inlet Configurations

As shown in the previous table, special inlet configurations are sometimes used to achieve debris control. It is the responsibility of the design engineer to establish flow capacity, design elevations, dimensions of the inlet structure and the structural steel layout to the satisfaction of the Department. In these cases, the following are design criteria that must be followed in addition to the Department's Hydraulic Design and sedimentation Manuals: (The latter is being published.)

1. Hydraulic Design Criteria for Elevated Inlets[1]

   a. Maximum allowable ponding at the drain inlet shall be 3 feet above soffit of the conduit.

   b. Maximum drain size shall be 84-inch RCP or equivalent RC box and the minimum drain size is 36–inch RCP.

   c. Minimum freeboard shall be 2 feet above maximum water surface elevation.

2. Hydraulic Design Criteria for Desilting Inlets (See footnote)

   a. The maximum allowable ponding at the drain inlet shall not exceed 3 feet above the soffit of the drain.

   b. The maximum drain size shall be 48-inch RCP or equivalent RC box.

   c. The minimum drain size shall be 36 inches.

   d. The maximum desilting wall height shall be 6 feet.

   e. The minimum freeboard at the inlet shall be 2 feet above maximum water surface elevation.

3. Hydraulic Design Criteria for Bulk Flow Storm Drains

   This is covered in Chapter 42 of this Manual.

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[1] Supplemental criteria to the Department's Hydraulic Design Manual.

CHAPTER 42

DEBRIS-CARRYING FACILITIES AND SUPPORTING DATA

Debris carrying facilities usually consists of open channels designed to carry large amounts of debris (50 year burned and bulked flows). They are usually located upstream of a debris basin or reservoir and must outlet into a facility that can convey the debris ladden flows. Closed conduit systems may be allowed depending on site specifics and provided that the drain flows as an open channel and the volume and type of debris do not pose concerns to the Department of Public Works regarding the safe operation of the storm drain. In general, covered debris-carrying systems conveying materials in excess of 1000 cubic yards are not considered feasible by the Department.

It must be shown that debris carrying drains are designed for bulked flows acceptable to the Department and there must be a suitable outlet for debris. The drain should be adequately designed to resist erosion and abrasion while conveying debris (see Chapter 36 of this Manual).

Careful consideration must be given to providing a smooth alignment, always increasing pipe grades and conduit size downstream. Debris-carrying drains will only be considered where upstream debris control is not feasible. The Department should review and approve the concept for major debris-carrying systems at the design concept stage.

Debris-carrying facilities should have a slope of 5 percent or greater. The flow velocities should not exceed 30 fps. The slope of the storm drain shall be as uniform as possible to maintain uniform velocities. Grade changes and curves should be kept to a minimum to reduce the potential for debris deposition or blockage in the drainage system. (Steep to flat grade changes will not be permitted.)

Inlet design, including appurtenant trashrack and debris posts, is critical for the proper functioning of a debris carrying system. A 4-foot walk gate shall be provided on the headwall of all inlets to allow clearing debris off the trashrack during storms.

A secondary overflow path is required in case the inlet plugs. The overflow path can usually be incorporated with the alignment of the access road or driveway. The overflow path must not be directed at any proposed or existing structures.

Debris-carrying facilities must have a minimum of 1/2-inch additional concrete cover over the invert reinforcement steel. If the drainage system is also subject to high velocities, additional concrete cover will be required (see the appropriate sections in the Hydraulic Design Manual and Sedimentation Manual described in Chapter 54).

The outlet drain (mainline) shall carry no sediment up to its junction with the bulk flow drain. This outlet drain shall have a design flow capacity of at least twice the bulk drain flow and shall have a slope consistent with criteria set forth in the Sedimentation Manual.

A closed conduit storm drain carrying bulked flow must have the following additional hydraulic design criteria:

1. The inlet and drain must be sized to pass the 50-year burned and bulked flow.
2. Ponding is not allowed at the inlet.
3. The minimum pipe size shall be 36-inch RCP or equivalent area box.
4. Junctioning of two or more bulk flow closed conduits is not permitted.
5. The slope of the conduits shall be uniform to maintain uniform velocities.
6. The horizontal alignment of the conduit between the outlet and inlet shall be straight.

7. The outlet drain (mainline) shall carry no sediment up to its junction with the bulk flow drain, shall have a flow at least twice the bulk drain flow and shall have a minimum slope of one percent.

8. A closed bulk flow system is not permitted beyond the point where the total debris volume exceeds 1,000 cubic yards.

Refer to the Hydraulic Design and Debris Basin Manuals for design criteria. Other design criteria can be found in the Sedimentation Manual.

CHAPTER 43

RETENTION BASIN PLANS AND SUPPORTING DATA

DRAFT

A retention (percolation) basin is a depression where there is no natural outlet. All flows coming into a retention basin must either evaporate or seep into the ground. Retention basins seldom have a dam. However, should they have a dam for holding water, the requirements for the dam are covered in Chapter 38 of this Manual. The design of a retention basin is very similar to that of a detention basin described in Chapter 40 of this Manual. The design requirements in that chapter also apply to retention basins. However, major differences that must be considered in the design of this type of facility are described below:

A. Retention basins in the Antelope Valley and Acton area are to be sized on a 25-year rainfall frequency, 4th day only, storm event plus one foot of freeboard. The volume analysis is deemed acceptable due to physical conditions that the area experiences high-intensity, short-duration (thundershower) storm events (see Chapter 34 of this Manual).

B. The retention basin must be designed in such a manner that all water impounded in the basin must seep out of the basin within a seven day period after storms.

C. If considered for multi-use recreational purposes, the basin's side slopes shall not exceed one foot vertical to four feet horizontal with a depth of ponding no greater than 2.5 feet.

D. The development shall be designed to direct nuisance water to the basin.

E. The basin design should be such that it does not adversely affect the aesthetics of the area and all efforts should be made to preserve significant natural plants and trees.

F. A geotechnical report must include information as to the rate water will seep out and where it will go. The geotechnical consultant must demonstrate that the water seeping out will not reappear on the ground surface or in a location that it will cause problems with public health and safety.

G. The consultant must supply maintenance guidelines so that the design permeability of the retention basin will be preserved indefinitely. Needless to say, a retention basin cannot be used for alternate uses that might impede infiltration through and below the ground surface.

H. The subdivider will have to establish a Drainage Benefit Assessment Area, as described in Chapter 19 of this Manual, for the maintenance of these drainage facilities when they are located outside the Flood Control District boundaries.

It should be noted that retention basins are acceptable only in areas where there are no natural outlets to the ocean or where replenishment of the groundwater is needed. The later use meets the definition of a spreading basin and must have the approval of Hydrologic/Water Conservation Division.

Some design considerations are listed below:

1- Setbacks from property lines of residential lots to be eight feet minimum.

2- Setbacks from street right of way to be five feet minimum.

3- Plans to have a minimum of two cross sections of the retention basin.

4- Retention basins to be sloped one percent in one direction and three percent in the other direction.

CHAPTER 44

ROAD PLANS AND SUPPORTING DATA

DRAFT

This Chapter contains minimum standards for road design and plan layout. The procedures for road plan approval are presented in Chapter 21 of this Manual. Items I through VII (Pages 44-1 through 44-5) are essentially important provisions of Title 21 of the County Code (Subdivision Code). Exceptions to these standards can only be granted under very unusual circumstances. The remainder of the chapter is devoted to the policy that has been established by the Department in the preparation of plans, recording documents, letters, easements, etc.

I. Access Requirements

All requirements for street, residential and wildland access are presented in Part 1, Chapter 21.24, Access, of the County Code. Any permitted modifications to access on frontage requirements by the advisory agency are presented in Section 21.24.040 of Title 21 of the County Code.

II. Highway Design Requirements

All highway design requirements are in Part 2, Chapter 21.24, Highways, of Title 21 of the County Code. The following items are important excerpts from this code as they apply to road plan requirements:

A. Conformity with the Highway Plan

The centerline curve radius of an expressway shall not be less the 2,100 feet. The centerline curve radius of a major highway shall be not less than 1,500 feet. The centerline curve radius of a highway other than a major highway shall be not less than 1,000 feet. The centerline curve radius of a highway may be reduced if topographic features or title limitations make it impossible or impractical to conform to the standards contained in this section at the discretion of the Director of Public Works.

(Note: To obtain approval for the relaxation of Highway Plan Conformity requirements, the developer must submit a request for approval to the Interdepartmental Engineering Committee administered by Regional Planning Commission. The Interdepartmental Engineering Committee is chaired by the Department of Regional Planning but is comprised of both the Department of Public Works and the Department of Regional Planning. The Director of Public Works shall be informed and his approval secured prior to relaxing any Code requirement. The recommendations from the Interdepartmental Engineering Committee will be transmitted to the Road Plan Check Subunit and to the developer for incorporation into the maps and plans. These recommendations will take precedent over code requirements.)

B. Right-of-Way and Roadway Width Requirements - Cross Section Diagrams

Each highway shall have a width of right-of-way, vehicular pavement and sidewalk where a sidewalk is required, to conform to the Master Plan where established, the cross section diagrams shown in Section 21.24.065 and on Page 44-31 or such other designs as approved by the Director of Public Works.

C. Part-Width Highways

Any part-width highway, or any reservation therefore, lying along and abutting any boundary of a division of land shall have such a width as will conform to the lines shown on the Highway Plan covering the same portion of such division (Section 21.24.070).

D. Grade Separation and Bridge Approaches

Wherever any highway within a division of land intersects any railroad, interurban, or streetcar right of way, and such highway is shown upon the Highway Plan, and provision is made in such Plan for the location of a separation of grades at such intersection, the road layout of the division of land shall be such as to conform to such plan, and to provide access to each lot (Section 21.24.080).

III. Local Street and Way Design Requirements

All local street and way design requirements are in Part 3, Chapter 21.24, Local Streets and Ways of Title 21, of the County Code. The following items are important excerpts from this code as they apply to road plan requirements:

A. Right of Way and Improvement Width Requirements

Each alley and street shall have a width of right-of-way, vehicular pavement and sidewalk, where a sidewalk is required, to conform to the cross-section diagrams shown in Section 21.24.090 and on Pages 44-32 through 44-35.

B. Street Grades

No highway or street shall have a grade of more than six percent, except for short stretches where the topography makes it impracticable to keep within such grade, and in no event shall the grade exceed 10 percent, except where evidence, which is satisfactory to the advisory agency, is given that a lower grade is not possible (Section 21.24.100). However, in hillside areas, grades up to a maximum of 15 percent will be permitted if it can be demonstrated to the satisfaction of the Regional Planning Commission that a significant amount of grading can be eliminated. (However, grades steeper than 6% (six percent) must be approved by the Director of Public Works.)

C. Right of Way

Intersections of road right of way lines where one or both roads are local residential, shall be rounded with a curve having a radius of 13 feet, unless otherwise determined by the Road Unit Head of Building and Safety/Land Development Division. Intersections of road right of way lines, where both roads are shown as highways on the Highway Plan or one of the roads serves a commercial or industrial development, shall be rounded with a curve having a radius of 27 feet, unless otherwise determined by the Road Unit Head of Land Development Division.

The above noted radii represent a minimum standard. Generally, a slightly greater radius may be found acceptable if public safety is not compromised by speeding vehicles. A slight reduction in the above radii may be approved if it is found that existing conditions prevent the minimum standard from being met and that the curve will still meet public safety requirements.

D. Centerline Curve Radius

On any street the centerline curve radius shall not be less than 100 feet, unless sufficient evidence is offered to the advisory agency by the subdivider to show that the 100-foot radius is not practicable. (This is a County Code requirement. The Department has adopted a higher minimum standard based on Caltrans and AASHTO requirements which supersede County provisions. See Item VIII beginning on Page 44-5.)

E. Street Intersection Angle

Except as provided in Item II.B on Page 44-1, any highway or street intersecting any other highway or street shall intersect it at an angle as nearly a right angle as practicable (Section 21.24.140).

F. Service Roads or Alleys Required

Whenever service roads or alleys are required under Sections 21.24.150 and 21.24.160 of the County Code, they must meet County Standard Plan Requirements.

G. Alley Intersections

Where two alleys intersect, a cutoff of not less than 10 feet along each alley shall be provided (Section 21.24.170).

H. Turnarounds

All turnarounds required in Section 21.24.190 of the County Code shall conform to Sketch-1 and 2 on Page 44-37 and 44-38 for Streets and Sketch-3 on Page 44-39 for Alleys.

If allowed by the conditions of tentative Map Approval, temporary turnarounds should be used where standard plans cannot be used within existing right-of-way using the sketch on Page 44-36.

I. Cul-de-Sacs - Length Restrictions

Cul-de-sacs meeting the requirements in Section 21.24.190 shall be not more than:

1. 500 feet in length, when serving land zoned for industrial or commercial use;

2. 700 feet in length, when serving land zoned for residential uses having a density of more than four dwelling units per net acre;

3. 1,000 feet in length, when serving land zoned for residential uses having a density of four or less dwelling unit per net acre.

J. Pedestrian Ways

A transverse pedestrian way of adequate width may be required through the approximate middle of each block having a length of more than 700 feet. If it is later determined during plan review that a block exceeds 700 feet, a pedestrian walkway may be required. The Subdivision Subunit of Development Management Section should be notified so that a decision can be made by Regional Planning Department. If a pedestrian way is required, it shall be shown on the road plans and meet the requirements for a sidewalk. In addition, a pedestrian way shall not have a grade more than 30 percent without steps or stairs that are made part of the improvement. The grade of a stairway shall not exceed 75 percent. (See Section 21.24.210.)

K. Fire-Fighting Access Easements

All fire fighting access easements and their improvements required by Section 21.24.220 shall be shown on the grading plans. (See Chapter 30 of this Manual.) The pavement thickness must be sufficient to support the fire equipment that will use the fire access road.

L. Collector Streets on Section Lines and Quarter-Section Lines in Antelope Valley

Section 21.24.230 requires that collector streets shall be established on all section lines and quarter-section lines in the Antelope Valley, except on those lines designated as highways on the Highway Plan. The advisory agency may select a different location for such streets where existing conditions on the ground, ownership patterns, topography, environmental factors or other concerns warrant.

IV. Road Improvements

Road improvement requirements for a new subdivision are established by the Regional Planning Commission as part of the Conditions of Tentative Map Approval. Road improvements, including drainage facilities, roadway section, gutters, curbs, parkways, sidewalks, street lighting and landscaping are described in Chapter 21.32 "Improvements" of Title 21 of the County Code.

Requirements vary from area to area according to amount of use and zoning. Undeveloped areas in the Antelope Valley have special alternative design requirements.

V. Street Lights

Except as otherwise provided in Title 21 of the County Code (Subdivision Code) the subdivider shall provide a street-lighting system in each division of land (Section 21.32.140). See layout requirements in Item XVI on Page 44-30.

The requirement for street lighting systems may be waived if the advisory agency finds that street lights will not be in keeping with the neighborhood pattern, or all lots in the division of land contain a net area of not less than 40,000 square feet and street lights are not necessary to serve such lots so as to maintain the continuity of an established neighborhood street-lighting pattern (Section 21.32.150).

VI. Street Tree Planting

Except as otherwise provided in the Subdivision Code (see Chapter 29), a subdivider shall plant trees along the frontage of all lots shown on a final map or parcel map (Section 21.32.160). The number, species, and location of such trees shall be as described in Item XV beginning on Page 44-28. Tree planting is not required in the following situations unless it is determined to be in the public interest:

A. Along a segment of a street or highway to which the right of direct access from abutting lots has been relinquished;

and

B. Along streets and highways which are not improved with curbs.

Street tree requirements within street right-of-way are incorporated in the Item XV beginning on Page 44-28. The Director of Parks and Recreation shall advise subdividers and their successors in interest in the selection and care of trees or shrubs to be planted in any required planting strip reservation on private property. In addition, advice can be obtained from Road Maintenance Division telephone (818) 458-3981.

VII. Sidewalks

Except as otherwise provided in Title 21 of the County Code (Subdivision Code), the subdivider shall, as part of the improvement of the street or highway, install sidewalks not less than four (4) feet wide or where "full width" is noted, the entire width of the parkway or from the curb to six (6) inches from the edge of the right-of-way. (See Chapter 29 of this Manual.) Section 21.32.180 requires sidewalks in the following locations:

A. On both sides of entrance and collector streets within the division of land.

B. On both sides of loop, interior and cul-de-sac streets.

C. Along one side of service roads adjacent to abutting lots.

D. Along highways shown on the Highway Plan where no service road is provided, and lots in the division of land which take direct access to the highway. (Full width required if a landscaping district is not formed. See Item II.B, Page 44-1.)

E. Along highways shown on the Highway Plan where necessary in order to provide for the safety and convenience of pedestrians.

Construction of sidewalks is not required where any one or more of the following conditions exist and the Regional Planning Commission so finds (Section 21.32.190):

A. Where all lots in the division of land contain a net area of not less than 15,000 square feet or have an average width of not less than 100 feet, except where sidewalks are necessary to serve such lots so as to maintain the continuity of the established neighborhood sidewalk pattern.

B. The construction of sidewalks would be impractical because of topographical conditions or because of other physical obstacles.

C. Sidewalks will not be in keeping with the neighborhood pattern.

D. Sidewalks are not needed in, and will not benefit the area.

VIII. Road Alignment

A. General Objectives

Alignments of highways depicted on the County Highway Plan are under the purview of the Interdepartmental Engineering Committee (IEC) and thereforeany proposals to precise or realign a highway shall be coordinated with the IEC through our Planning Division.

The main objective of road alignment design is to produce a street system of maximum usefulness for the public. The streets must be useful not only for local and through motor vehicles, but also for pedestrians and public utilities. Aesthetic appearance is important also. The design should also be oriented toward relatively low maintenance. All of these things must be accomplished within the bounds of reasonable cost.

B. Highway Design Speeds and Alignments

Expressways shall be designed for 70 mph. Major and Secondary Highways designated on the Highway Plan by Regional Planning Department shall be designed for 65 miles per hour. However, where difficult terrain or title limitation exist, minimum design speeds of 60 miles per hour for major highways and parkways, 55 miles per hour for secondary highways and 45 miles per hour for limited secondary highways may be used. Any exceptions must be approved by the Director of Public Works. The design criteria including charts in Chapter 200 of the latest edition of the Caltrans Highway Design Manual shall be used in determining the horizontal and vertical alignment. The Department has adopted standards based on Caltrans and AASHTO requirements which supersede County Standards.

The following maximum criteria have been adopted by the Department:

1. Grades shall not exceed six (6) percent for Major and Secondary Highways. Steeper grades must be approved by the Director of Public Works.

2. Superelevation rates shall not exceed five (5) percent. The design must demonstrate to the satisfaction of the Director of Public Works that steeper rates are necessary.

3. The intersections must meet the requirements of Item F beginning on Page 44-6.

Refer to the Los Angeles County Road Department's Highway Design Manual for other design standards. These standards must be followed unless there are exceptions within this Manual.

C. Local Street Design Speeds

The standard design speed for local streets, excluding cul-de-sacs, is 40 miles per hour. This design speed may be reduced in accordance with Item E beginning on Page 44-6 due to unavoidable physical factors and it can be shown by the design and traffic engineers that the street will still safely meet the needs of the area being served to the satisfaction of the Department. Such deviations must be approved prior to tentative map approval. (See Chapter 11 of this Manual.)

If a developer elects to construct a local street that is wider than required by the Department of Public Works, the width will have to meet the requirements of a Highway Plan Highway in Item B above. In that case, the design speed shall be equal to the design speeds required for Highway Plan Highways.

D. Minimum Horizontal Alignment for Local Streets

No angle points will be permitted for alignment changes and horizontal curve must be provided.

The minimum horizontal alignment centerline radii for local streets shall be as follows:

	Horizontal Alignment Centerline Radius (ft)
Local Collector*	350
Local Access**	250
Cul-de-sac	100

* Local collector street widths generally require 64 feet of right of way (40 feet between curbs); however, some streets with 60 feet of right of way (36 feet between curbs) may serve as collector streets due to the street pattern of the development.

** The present provisions of the Los Angeles County Subdivision Code permits horizontal curves with a radius as low as 100 feet. This can result in comfortable speeds lower than 20 m.p.h. The County Code will be revised to set the minimum radius that provides comfortable speeds at design speeds. (See Item III.D on Page 44-2.)

All curves must not be less than 100 feet in length.

E. Minimum Vertical Alignment for Local Streets

Vertical curve must be provided for vertical alignment changes.

The minimum vertical alignments for local streets shall be based on the Charts in Figure 201.4 and 201.5 of the California Department of Transportation's "Highway Design Manual", issued January 1987. For additional conditions governing vertical alignments see Item H on Page 44-9. The following minimum speeds are to be used in the alignment design:

	Design Speed (mph)	
	Standard	Hillside
Local Collector*	40	35
Local Access	30	25
Cul-de-sac	25	20

*See above.

The above table has a flexible range. The minimum speed or greater should be used whenever possible, reserving use of the hillside speeds where the topography dictates.

Any reduction of the above standards must be justified by unavoidable physical factors and it must be shown by the design engineer that the street will still meet the needs of the area being served to the satisfaction of the Department. Such deviations must be approved prior to tentative map approval. (See Chapter 11 of this Manual.)

F. Intersection Design

All intersections must meet the following design guidelines:

1. Sight Distance

Intersection sight distance for traffic entering a through street or highway from a minor street or driveway measured 10 feet from the edge of the traveled way shall be as follows:

Design Speed (mph)	Intersection Sight Distance (ft)
65	725
60	650
55	585
50	515
45	465
40	415
35	365
30	310
25	260
20	210

Grade corrections for the above criteria should be in accordance with the following table:

Through Street Design Speed (mph)	Increase for Downgrades Correction in Stopping Distance (ft)			Decrease for Upgrades Correction in Stopping Distance (ft)		
	3%	6%	9%	3%	6%	9%
30	10	20	30	-	10	20
40	20	40	70	10	20	30
50	30	70	-	20	30	-
60	50	110	-	30	50	-
65	60	130	-	30	60	-

2. Landing Areas

All controlled intersections must be designed to provide landing areas. A landing area is defined as the area on the side street approaching a through street roadway at tee-intersections and approaching each side of a stop-controlled four-way intersection. It is sometimes referred to as a storage platform. The maximum grade of a landing area is 3% (three percent.)

Minimum Lengths of landing areas with maximum three percent grade shall be as follows:

Highway Plan highways	200 feet
Local Collector streets	100 feet
Local Access streets	50 feet
Cul-de-sac streets	25 feet

A grade up to 4% (four percent) will be acceptable if the designer can demonstrate to the satisfaction of the Department that:

a. The existing topography makes our minimum standards difficult to meet and

b. The through street is at a grade up to 10% (ten percent) and the steeper landing grade is required to smoothly join the cross street with through street.

Deviations from the above standards must be justified by the design engineer based on physical limitations. It must be shown that the street will still safely meet the needs of the area being serviced to the satisfaction of the Department. Such deviations must be approved prior to tentative map approval. (See Chapter 11 of this Manual.)

The basis for this standard is that according to AASHTO research a 3% (three percent) down grade or greater extends the safe vehicle stopping distance significantly without most drivers being aware and therefore increases the potential for traffic accidents.

3. T-Intersections

T-intersections must have landings in accordance with Item 2 above. The side-street cross section slope at the point of intersection (PI) with the through-street shall be at the longitudinal grade or slope angle of the through-street. The PI is defined as where the prolongation of the edge of the gutter line of the through street meets the prolongation of the edge of gutter of the side-street. If a cross-gutter is to be constructed, the point of intersection is where the prolongation of the flow lines of both streets meet. The side-street cross section slope at the Beginning of the Curb Return (BCR) of the side-street shall be no more than two-thirds of the through-street longitudinal grade or slope. It is preferable that this grade does not exceed one-half of the through street grade. The through street may not have a grade through the intersection in excess of ten (10) percent. If the through street grade is considerably level, the normal side street cross-section can be utilized at the BCR. The maximum change in street grade is 1.5% (one and a half percent) at the BCR and at the first chord (15 feet) beyond the BCR. Beyond the first chord the change in slope grade at each 15-foot chord shall not be greater than one percent until the normal cross-section is attained. The normal cross-section shall be attained in as short a distance as possible.

The shape of the cross-gutters depend upon the steepness of the through-street. The layout criteria of these gutters is shown on the Department of DPW Standard Plan 1110-0 and APWA Standard Plan 106.

All cross-gutters must meet the requirements in APWA Standard Plan No. 106 except for inverted shoulder streets and those with steep grade. The criteria for cross-gutters are as follows:

a. Streets with Curbs

1/ Grade up to 4% - APWA Standard Plan 106.

2/ Grade greater than 4% - DPW Standard Plan 1110-0.

b. Street with Inverted shoulders

1/ Grade up to 4%

a/ For concrete flow lines, use DPW Standard Plan 1100-0.

b/ For asphaltic concrete inverted shoulders, DPW Standard Plan 1090-0.

2/ Grade from 4% or greater, use DPW Standard Plan 1110-0.

c. Intersection where flow is diverted down a side street - DPW Standard Plan 1120-0.

No cross-gutters should be permitted within 100 feet of a storm drain unless it can be shown that runoff flows cannot be diverted into the storm drain.

4. Four-Way Intersections

Whenever possible, grades at four-way intersections should be laid straight across intersecting streets without the use of landings. Where due to steep grades, the use of landings are unavoidable, the street of major importance may not have a grade through the intersection in excess of eight (8) percent. The other intersecting street shall have a landing in accordance with Item 2.

The design profile must be evaluated for both streets. Profile breaks through the intersection should not exceed 3.5% for a summit break, nor 3.0% for a sag break. The sag break at a cross-gutter is determined from the difference of the grades adjoining each edge of gutter rather than from the short slopes on the cross-gutter itself. It will usually be necessary to depress the centerline of the street parallel to the cross-gutter to three (3) inches above the edge of the cross-gutter.

Cross-gutters used for local four-way intersections must meet the requirements described in Item 3 above.

5. Intersections with Service Roads

Service Roads intersecting the entrance street must be drawn in accordance with Sketch 4 on Page 44-40.

6. Curb Return Radius

Curb return radius at an intersection with a residential collector or local street is 25 feet. Where both streets are highways or industrial-commercial streets, the curb radius is 35 feet. In all cases, the right-of-way radius should be equal to the curb radius less the largest parkway width.

At intersections meeting existing streets without curbs, flare pavement at 45 degrees from End of Curb Return (ECR)'s or end of cross-gutter transition to join existing pavement.

7. The centerline of all local streets shall be aligned without creating jogs of less than 150 feet. A one-foot jog may be used where a street changes width from 60 feet to a 58-foot right-of-way.

G. Street Grade Breaks

Grade breaks for residential streets shall consist of 15-foot chords with a maximum grade change of 1% (one percent).

H. Sight Distances for Road Sags

For unlighted areas, the standard for the design of vertical curves presented in Item E on Page 44-6 are satisfactory. For lighted areas, the standards in Item G above shall apply for sight distances for sags.

I. Street Knuckles

For the purposes of this Manual, a knuckle can be defined as two dead end streets using the same cul-de-sac. (See Item K.) Street angle points are not permitted. There must either be a curve or a knuckle. Knuckles are permitted only under the following conditions:

1. Knuckles are permitted for normal residential streets.
2. The maximum length of a street from any direction from a knuckle is 1000 feet.
3. Knuckles are permitted where the minimum speed limit can drop below 25 miles per hour.
4. Knuckles are <u>not</u> permitted on local residential collector, commercial or industrial streets.
5. Knuckles are <u>not</u> permitted where the minimum speed limit <u>cannot</u> drop below 25 miles per hour.

Any deviations from the above minimum standards must be approved prior to approval of the tentative subdivision map.

Any knuckle requiring superelevation must meet the requirements of Sketch 5 on Page 44-63.

J. Minimum Street Longitudinal Grades

The minimum longitudinal street grades based on the noted conditions are as follows:

1. Flatlands - 0.4%.
2. Curved portions for cul-de-sacs - General Case - 0.5%.
3. Curved portion for cul-de-sacs in fills where drainage is down the street from the bulb - 1%.
4. Portions of tracts where terrain slope is greater than 8% - 1%.
5. Where contributory area may cause sediment deposition problems - 2%.

K. Cul-de-Sacs

Cul-de-sacs must be installed for all permanent dead-end streets in accordance with Sketch 1 and 2 on Page 44-37 and 44-38. For cul-de-sacs at the end of a service road that is along a highway, use Standard Plan No. 12-02. Cul-de-sacs may be required on temporary dead end streets when future development appears remote. The preferable development for other temporary dead-end streets is full improvements to the tract boundary with a curb and gutter

turnaround outside the tract. If construction outside of the tract cannot be arranged, then a walk should also be constructed around the temporary turnaround.

L. Alleys

Alleys must meet the requirements in APWA Standard Plan No. 100-0. Should there be a Tee intersection in the alley, the intersection must meet the requirements of Sketch 3 on Page 44-39.

M. Medians for Divided Highways

All median tapers that provide left turns must be in accordance with APWA Standard Plan No. 108 and DPW Standard Plan No. 1050-0.

All median flares must be in accordance with APWA Standard Plan No. 109.

N. Pedestrian Safety Devices

Any hand railings designed to protect pedestrians must meet the requirements of APWA Standard Plan No. 606-0.

All fencing must meet the requirements of APWA Standard Plan No. 600-0.

Wrought iron fencing will be acceptable along the rights-of-ways provided it is to be maintained by a homeowners association, and not the County. Fencing can be placed on the property line but not within the County easement or property. (See Chapter 56 of this Manual.)

A five-foot high chain link fence may be required to fence off "graded only" Highway Plan Highways at points of contact with other improved streets in accordance with APWA Standard Plan No. 600.

O. Guide Markers

Guide markers may be required in accordance with Caltrans Standard Plan A73C with flexible post to delineate the edge of pavement when narrowing and guard rail in accordance with Caltrans Standard Plan A73B, A77A, A77B and A77G as shown on Page 44-41 through 44-44 may be required when the hazard of leaving the roadway is significant.

P. Tentative Map Conditions

All requirements pertaining to items within street right-of-way established by the Regional Planning Commission and are listed as Tentative Map Conditions (see Chapter 11 of this Manual) must be shown on the street plans. The following are special design requirements:

1. Postal Service Requirements

   Postal Service requirements require that postal delivery receptacles shall be located in single family residential areas behind the sidewalk and installed in groups to serve two or more residential units. It is the responsibility of the developer prior to tentative map approval (See Page 11-20 of Chapter 11 of this manual) to obtain from the local post master the requirements for delivery receptacles for the proposed development. These requirements must become part of the tentative map conditions. The sketch on Page 44-45 shows the installation of mail boxes by the developer. The sketch on Page 44-46 shows the preparation of areas for mail boxes to be supplied by the Postal Service.

2. Inverted shoulders are permitted in rural areas as described in Chapter 21.32 of Title 21 of the County Code. Drawing requirements are presented in Item XIII.B.7.e.4/ on Page 44-21.

Concrete flowlines are to be used in conjunction with inverted shoulders under the following conditions:

a. The street grade exceeds 6% (six percent.)

b. The street grade is less than 1% (one percent.)

c. There is frequent nuisance water as determined by the Department.

Q. Supporting Information

This information will be required to support plan layout.

1. Profiles of Intersections

Detail profiles of intersections, usually required on standard profile paper, shall be submitted as a separate design to justify the design shown on the plans. The scale for these profiles should be 1 inch equals 0.8 feet vertical. Plot centerline and both edges of gutter on the same datum. This type of plot clearly shows relation of each edge of the gutter to centerline, amount of crown at any location and edge of gutter transitions to the normal section. This profile is designed to give graphical solution to the design of the intersection and for ease of review.

2. Existing Pavement Data

Submit hard copy design and cross-sections of all existing pavement.

IX. Street and Highway Drainage

All street and highway drainage shall be done in accordance with the applicable chapters in this manual. All surfaces within the right-of-way must be free draining so that there are no sumps or low spots unless appropriate drainage devices are provided. The following are the Department's basic drainage criteria:

A. Maximum Flows within Road Right of Way

The design flow calculations for roads must be in accordance with Chapter 34 of this Manual. Water must be removed from the road surface in accordance with the Highway Design Manual to provide favorable conditions for vehicle and pedestrian traffic.

For major highways and secondary highways, water should be intercepted at sufficient intervals to maintain the following favorable conditions for vehicles and pedestrians:

1. For a 10-year storm, maintain one unflooded traffic lane in each direction.

2. For a 25-year storm, maintain one-half of one unflooded traffic lane in each direction.

3. For a 50-year storm, prevent water from pounding beyond the property line.

Streets may be allowed to carry water to the top of the curb or the top of the inverted shoulder under the following maximum conditions:

1. If a sump condition is proposed, a 50-year storm flow will govern with water pounding to right-of-way line and no deeper than 11 inches.

2. If a storm drain is proposed, a 25-year storm flow will govern for the combined capacity of the street and storm drain provided that the applicable provisions presented in Chapter 34 of this Manual are met.

3. If a storm drain cannot be constructed due to no possible outlet, a 10-year storm flow will govern.

For all roads the depth-velocity product (expressed in feet and feet per second) must not exceed six (6) for a 25-year storm or less for depths not to exceed 11 inches. Values in excess of six or depths greater than 11 inches create hazardous conditions for pedestrian traffic.

B. Alteration of Flows from Road Right-of-Way

All road designs must prevent an increase of drainage problems (ie. concentrating flow and/or increasing runoff flows) downstream of the road right-of-way. Where these problems are unavoidable, the hazard must be mitigated to the satisfaction of the Department of Public Works and a drainage release letter must be obtained from the downstream property owner.

C. Receiving Flows onto Road Right-of-Way

Unless drainage devices are provided all road designs must not permit the ponding of water or obstruct natural runoff wherever possible. Debris laden ("bulked") flows from natural water courses or canyon areas will not be permitted to drain onto the street. The maximum amount of flow from off-site property and/or building pads onto the street surface gutter is one cubic foot per second over a property boundary length of 100 lineal feet. Higher flows can be allowed directly into the street gutter with a parkway drain if there is no storm drain within 100 feet and the flow depth velocity product criterion in Item A is met. Otherwise, the flows must drain directly into a culvert or storm drain.

D. Road Culvert Design Criteria

For the purposes of this Manual, a road culvert is a closed conduit intercepting watercourse flows tributary to one side of the roadway and merely protecting a roadway. A storm drain is an open or closed conduit that protects both roadway and developed properties and discharges collected runoff in a designated location such as a water course, drainage channel, reservoir, lake or ocean.

The road culvert must be designed according to the storm drain requirements in Chapter 36 of this Manual for Private Drain Plans and Supporting Data. Since the road culvert protects only the roadway, it will remain the property of the County of Los Angeles (not the Los Angeles County Flood Control District) and be maintained by the Road Maintenance Division.

While the drainage system may be shown on other plans, all inlets and outlets in street right-of-way must be shown on the road plans and meet Department Standards as follows:

1. Level of Flood Protection

Culverts master plan highways shall have the capacity to handle peak flows of a 50-year storm.

The flow capacity of other road culverts shall meet the following criteria in accordance with Section 2.6-04 of the Highway Design Manual:

a. For a 10-year storm, have the capacity to pass the peak flow with or without static head at the entrance.

b. For a 25-year storm, have the capacity to pass the peak flows and at the same time have sufficient freeboard without overtopping the road if the flows are not from a natural water course.

c. For a 50-year storm, have the capacity to pass the peak flows and at the same time have three feet of free-board if the flows are from a natural water course.

d. For up to 50-year storms, have the capacity to pass the peak flows so that the road conditions in Item A on Page 44-11 are satisfied and natural flow conditions are met if there is flow in the roadway. (See Chapter 32 of this Manual.)

e. If debris or "bulked" flows are a consideration, the requirements in Item 2 must also be met.

The hydraulic design conditions described below must be met based on the above criteria:

a. No pounding and overflow damage to adjacent property or to the roadway structure.

b. No drainage system damage to the channel due to erosion and to the conduit due to scour and silting (see Item 2 below)

c. There is possible future incorporation into a storm drain system.

2. Handling of Debris

The amount of potential debris entering the system must be determined in accordance with Chapter 42 of this Manual. Two solutions to handling debris are as follows:

a. Retain all solids upstream from the entrance, or

b. Allow all solids to pass through the culvert system to a natural water course downstream.

If Item a. above is utilized, a debris control facility must be established in accordance with Chapter 41 of this Manual at the inlet structure. If item b. above is utilized, the available head must be used to maintain or accelerate the velocity of the flow approaching the culvert instead of creating a pond at the entrance thereby inviting deposition that will block the entrance. In addition, the requirements established in Chapter 42 of this Manual must be met. All street drainage systems not associated with a storm drain may be placed on the road plans. Standard Plan No. 3053 is acceptable. The Department Standard Plans or the Highway Design Manual should be consulted for details not covered in this Manual.

3. Access to Inlets and Outlets.

The plans must provide for access to all culvert inlets and outlets. This includes establishing an easement permitting such access if the access must be outside the road right-of-way.

For all culverts 48 inches and smaller in size, the plans must show a pedestrian access route not blocked by walls, fences or other structures. The access route must not be steeper than 40 degrees and end where the drop-off is no greater than 7 1/2 feet to the flow line, without providing space for installing a life line, meeting the requirements of Section 1670 of Title 8 of the California Code of Regulations.

For all culverts greater than 48 inches in size, a paved vehicular access ten feet wide must be provided.

In addition, if the following conditions occur or are needed, consult the referenced chapters in this Manual:

1. Chapter 36 - For inlet and outlet structure design requirements.

2. Chapter 38 - If there will be significant ponding to require that the roadway will have to be considered a dam.

3. Chapter 40 - If there will be significant ponding of water.

In most cases where the culvert is located outside the right-of-way line, the Department will require an additional drainage easement adjacent to the street right of way. The area of this easement must be based on culvert easement requirements. (See Item IV.B on Page 36-17, Chapter 36 for guidelines.)

E. Catch Basins

Under the conditions specified below, APWA Standard Drawings for catch basins are acceptable:

1. General Situations: 300, 308, 309, 310, 311, 312 and 313.

2. For grades that exceed 4% (four percent): 301.

3. Outside of road-right-of-way: 302 and 304.

4. In alleys, parking lots and sump areas: 304 and 305.

For catch basins in landscaped medians, the sketches on Pages 44-47 and 44-48 must be used.

Where tandem catch basins are required, the following minimum length of pipe between them are required:

Street Grade	Min. Length
$R < 6\%$	24 feet
$6\% \leq R < 8\%$	32 "
$8\% \leq R < 10\%$	40 "
$10\% \leq R < 12\%$	48 "
$12\% \leq R \leq 15\%$	56 "

Catch basins should be located so that there is no driveway within 25 feet upstream of the basin where the street grade exceeds six (6) percent. This may require greater spacing than the minimum length shown above.

Maximum interval for catch basins shall be 1,000 feet.

Local depressions for catch basins with a depth greater than 2 inches are not permitted on Master Plan Highways. Local depressions for catch basins on local streets with a depth greater than 2 inches are not permitted unless it is shown to the satisfaction of the Department that there is no physically or hydraulically feasible alternate. Greater depths create hazards to bicycle riders and can cause damage to parked car doors opening towards the curb.

F. Inlets and Outlets

Inlets and outlets must be designed to the requirements noted in Chapter 36 or the Highway Design Manual. Inlets and outlets must meet the requirements of DPW Standard Plans No. 3055-0 or APWA Standard Plan No.107.

The access requirements for maintenance shall be the same as for a storm drain as noted in Chapter 36 of this Manual. When required, the road plans must show access from a public way.

G. Parkway Drains

Parkway drains must be designed to the requirements of DPW Standard Plan No. 3056-0 and APWA Standard Drawing No. 107.

Parkway drains that are within 100 feet of a storm drain system must be connected underground directly to the storm drain system. If the flow is less than one (1) cfs and the storm drain is on the other side of the street, the parkway drain may be permitted to discharge onto the street.

X. Utilities

It is the State Legislature's policy to encourage the placement of all utilities underground wherever practical. The County General Plan requires all new subdivisions to place all utilities underground unless the subsurface materials are such to make it impractical. Section 21.24.400 of the Subdivision Code requires that the exterior streets be built to the same standards as the interior streets. This requires that existing above-ground utilities must also be placed underground.

According to the Southern California Edison Company, it is not practical to place an existing electrical line underground for distances less than 600 feet. Therefore, the Department will collect from the developer $150 per lineal foot and place it in trust in the name of the subdivision. It will remain in trust until the short length can be combined with another reach of power lines to make it practical to be placed underground under a long-range program.

The location of the above ground utilities in the street parkway shall be governed by the policy per DPW Standard Plan 6400-0. However, specific County Code requirements described elsewhere in Part III of this Manual shall supersede this policy.

XI. Special Letters

As mentioned in Chapter 21 of this Manual special letters are often required in order to construct a road. The instructions for the preparation of off-site covenants are on Pages 30-12 through 30-25, Chapter 30. These instructions are applicable to both grading and street plans. The sample letter requirements in this Chapter apply only to the unique characteristics of road construction. The following is a description of the various letters that are often required and the circumstances under which they must be submitted:

A. Drainage Acceptance Letters

A drainage acceptance letter is required from the off-site property owners approving the acceptance of flows from the development. For general flow conditions the sample letters in Chapter 30 of his Manual should be used. If the flows are from a street terminus which will eventually be extended onto the property, the sample letter on Page 44-50 should be used. All letters must be notarized and recorded by the County Recorder.

B. Permission to Enter for Construction Letter

The permission to enter for construction off-site is required. This includes slope construction, temporary-turn-arounds, driveways, transitions for curbs, gutters and pavement, drainage facilities, etc. It must be signed by the off-site property owner and a signed copy filed in the project file in the Road Plan Check Subunit. Samples of construction letters are shown in Chapter 30, and Page 44-51. If the construction consists of slopes of greater than four (4) feet in height, temporary-turn-arounds, drainage facilities and any construction that requires significant off-site areas, the letter should be notarized and recorded by the County Recorder. For minor construction, the letter is placed in the road project file.

C. Hardship Letter

Whenever the subdivider has made a concerted effort to obtain the necessary letters described above and is frustrated in his efforts by conditions beyond his control, he may submit a hardship letter. The purpose of a hardship letter is to give relief to developers when they are unable to enter adjoining property to construct required improvements such as roads and drainage facilities. If the Department represented by the Road Plan Check Subunit concurs with the facts in the Hardship letter, the developer may be allowed to shorten up the required improvements to bring them entirely on site. Right-of-way and slope easements will be required to be granted in which the adjacent property owner will have to construct the improvements within his/her development. The conditions under which a hardship letter must be submitted and what it must contain is described on Page 44-52.

D. Agreement for Television Cable Installation

The agreement for television cable installation must be submitted with signatures notarized. A sample of this agreement is shown on Page 44-53. A copy is retained in the road project file.

E. Utility Letter

Utilities which have facilities which fall within road right of way which is to be dedicated, must also submit a letter. A sample of this letter is shown on Page 44-54. A copy of the utility letter is placed in the road project file.

XII. Miscellaneous Structures and Utility Maps

A Miscellaneous Structures and Utilities (MSU) Map must be submitted when the street plans are submitted for new check for each tract or parcel map where there is construction in new right-of-way (R/W). The utility map is a print of the final map with the utilities delineated in red. All utilities such as pipe lines, weir boxes, power poles, etc., should be clearly located in all R/W to be dedicated. On a utility map for a parcel map, the R/W being deeded in conjunction with the map must be clearly labeled. The following certification by a Registered Civil Engineer or Land Surveyor as to the accuracy of the utility survey must be placed on the map:

A thorough investigation of available records and of the property shown on this map of Tract No. _____ shows that there are no encroachments of privately owned structures or utilities in those portions of said property offered for dedication to the County of Los Angeles except as shown hereon.

(Signature of Engineer or Land Surveyor)
R.C. E. or R.L.S. No. _____
Stamp or Seal and Date of Expiration

XIII. Road Plan Composition

All road plans must be prepared in accordance with Chapter 3 of the Highway Design Manual. The following are requirements that are applicable to road design in new subdivisions:

A. All Sheets

All sheets shall meet the following requirements:

1. Drawing Size and Layout

The drawing shall be of uniform size, 24" x 36". Ink originals or duplicate tracings on cloth, croniflex, or mylar or other equally durable material are required for filing with Land

Development Division for review prior to transfer. No paste on inserts will be accepted (see Chapter 50 regarding obtaining standard layouts).

The plan layout shall be in accordance with the samples on Plates 3.1.021 through 3.1-034 of the Highway Design Manual. They should be updated to meet the new Department Title and land development requirements.

2. Required Information

The following information must be added to all sheets:

a. A "Title Block" in the lower right hand corner.

b. A "Reviewed, Submitted and Approved Block" in the upper right hand corner.

c. "Revisions Blocks" to the left of the "Title Block".

d. A "Designers Block" to the left of the "Revisions Block".

e. Sheet number in the lower right hand corner below the "Title Block".

f. A "Project Number Designation Block" below the left side of the "Title Block".

g. Space in the vicinity of the "Title Block" for approval stamps and signatures.

3. Details of the Blocks

a. Title Block

The Title Block must list the items on the sheet. For example, the "Title Sheet" usually contains Typical Sections, Bench Mark, Standard Notes, Key Maps, Street Tree List, Construction Notes, etc. Other sheets should list the street and location.

b. Reviewed, Submitted and Approved Blocks

There is a special reviewed, submitted and approved Block for the Title Sheet. The "REVIEWED" Block is signed by the Road Sewer and Water Section Head. The "SUBMITTED" Block is signed by the Division Engineer (Asst. Deputy Director). The "APPROVED" Block is signed by a Deputy Director for the Road Commissioner.

There is one reviewed block on the rest of the sheets which is signed by the Subunit squad leader supervising the review.

c. Designers Block

The "Designers Block" shall contain the design firm's name, address and telephone number. Below that shall be space for the design engineer's printed name, signature, Civil Engineer Registration Number and date. In the vicinity of this block, space must be reserved for the stamp or seal of the design engineer. This must contain the registration number, license expiration date, engineer's name and type of registration in accordance with the requirements of Section 6764 of the California Business and Professions Code. (See Part 4 of this Manual.)

d. Revision Block

The "Revision Block" shall have three individual revision blocks as shown on the layout plans.

e. Sheet Number

Each sheet shall be numbered in sequence. This "Sheet Number Block" shall state "Sheet ___ of Sheet ___."

4. General Rules

The following rules apply to the sheet layout:

a. All improvements to be constructed from these plans are shown with solid lines; existing and future construction is shown with dashed lines and labeled accordingly.

b. If the project is in a contract city, the plans must be modified as follows:

1/ Add the name of the City above the "DEPARTMENT OF PUBLIC WORKS".

2/ In the "Approved Block" (Title Sheet only), change "Road Commissioner" to "SUPERINTENDENT OF STREETS."

Do not abbreviate any title.

c. Do not use voided or x'ed areas on original plans. Lining out is acceptable only for standard notes. All other erroneous material must be erased. However, if a revision of signed plans makes some material obsolete, it is better to void or x-out the obsolete material rather than erase it.

d. No stick or paste-on inserts will be accepted on the sheets.

e. Name Abbreviations

The following abbreviations shall be used when placing names on the plans:

Abbreviations for Name Descriptions

AL - Alley	DR - Drive	RD - Road
AV- Avenue	FR - Frontage Road	RP - Ramp
AVD- Avenida	FY - Freeway	RR - Railroad
BL - Boulevard	GN - Garden(s)	RV - Ravine
BR - Bridge	HT - Height(s)	RY - Railway
CA - Canal	HY - Highway	SQ - Square
CB - City Boundary	LN - Lane	SR - Service Road
CH - Channel	MN - Mountain	ST - Street
CK - Creek	MT - Mount	TE - Terrace
CL - County Line	MY - Motorway	TR - Trail
CN - Canyon	PK - Park	TU - Tunnel
CR - Circle	PL - Place	WF - Wharf
CS- Cresent	PY - Parkway	WH - Wash
CT - Court	PZ - Plaza	WK - Walk
CV - Cove	R - River	WY - Way
DL - Diagonal		

When direction nouns or street designations are an integral part of the street name, they should be spelled out whenever possible.

Example: 25 ST West (no TH after number)
AVENUE L-12
WEST SLOPE LN

f. Required Details

Show all necessary details in the most convenient locations. Reference all details to the applicable locations on the plan views. The scale of all details should be one inch (1") equals 10 or 20 feet wherever practicable.

Details are required of all cross-gutter modifications (see Item VIII.F.3 and 4 beginning on Page 44-8 for design requirements), road sections, etc.

B. Title Sheets

In addition to the requirements of Item A above, the title sheet shall contain the following:

1. General Layout Standards

A Standard Title Sheet, with the standard title blocks, signature blocks and notes is available from several blueprint companies (see Chapter 50 of this Manual). This reprinted sheet or a similar sheet should be used as the title sheet for each set of street plans. A typical title sheet layout to a reduced scale is on Page 44-55. For small projects the layout on Page 44-6 can be used. Very small jobs may be done on a single sheet. If the total length of the construction does not exceed 1/2 to 2/3 of the length the grid, including necessary information beyond the actual limits of construction, the right hand 1/2 to 1/3 of the grid may be wiped off a standard plan-and-profile sheet and the necessary title sheet information placed in that area.

For large projects, additional title sheets may be required. In that case, the first sheet should contain all the required items except typical sections and details and street tree list. These may be on subsequent sheets.

2. Title Sheet Contents

In addition to the requirements of Item A, the following information must be added to the Title Sheet.

a. Reviewed Block - See Items A.2 and A.3.b above for details.

b. Key Map - See Item 3 below.

c. Standard Notes and Construction Notes - See Item 4 below.

d. List of Standard Plans - See Item 5 below.

e. Bench Mark Notes - See Item 6 below.

f. Street Tree List - See Item XV beginning on Page 44-29.

g. Typical Sections and Details - See Item 7 and 8 below.

h. Space for jurisdictional approval - See Item 9 below.

3. Key Map

The key map consists of the index map and vicinity map. They are located along the left side of the title sheet. These maps may be combined into one map. However, they must show at least two master plan highways. The specifications for presenting these maps are on Page 44-58.

4. Standard Notes and Construction Notes

"Standard Notes" are to be located above the "Title Block". "Construction Notes" are not to be placed in a table on the plans. "Construction Notes" are to be placed on the typical sections or if not covered by the sections on the plan and profile sheets where required. Do not use letters referring to a table of Construction Notes in place of writing specific notes. "Standard Notes" may be referenced by number any where on the plans. Required Standard Notes and recommended Construction Notes are presented on the pages listed below:

a. The required road standard notes are shown on Pages 44-58 through 44-59.

b. Typical construction notes are shown on Pages 44-60 and 44-61.

5. Standard Plans

All standard plans used in the project must be listed in a table on the Title Sheet. Construction notes are to be placed within sections, details and plan and profile views. Only those standard plans specifically noted in this Manual may be used in accordance with the provisions presented in this Manual. Permission must be obtained from the Road Plan Check Subunit to utilize a standard plan or drawing not listed in this Manual. The following APWA Standard Plans are not acceptable for land development use; 102, 303, 306 and 307.

6. Bench Marks

The bench mark shall be shown as required in Item IV.B.5 of Chapter 36, on Page 36-17.

7. Typical Road Sections

Basic instructions for the preparation of highway and street cross-sections are as follows:

a. All typical cross sections shall be shown on the plans in the order of increasing stationing.

b. Typical Sections may be designated by:

1/ Street names are preferable when there are only three or less streets for a typical section. Limits shall be used only when a street name has more than one typical section. Cross-street names shall be used as limits where available, tract lines when appropriate, or stations where street names or tract lines are not appropriate.

2/ R/W width only. This method is preferable if there are more than two streets for a typical section.

3/ Letters, with a table set up defining the limits of each may be necessary for complicated situations.

c. Scale

The cross-sections shall be drawn to a scale of sufficient size to show all the required details. The scale exaggeration should not be greater than one (1) vertical to five (5) horizontal. (See Plates 2.2-111 and 2.2-112 of the Highway Design Manual.)

d. Required Dimensions

Show dimensions of existing and proposed improvements such as pavement, curbs, driveways, flow lines of ditches, property lines, etc.

e. Applicable Standard Drawings

The following standard drawings apply to cross-sections and must be indicted on these sections:

1/ Curb and Gutters - Sketch 6 on Page 44-70 and Sketch on Page 44-64.

2/ Barrier Type Curb and Gutter - APWA Standard Plan No. 104. (See Construction Note A.2 on Page 44-60.)

3/ Mountable Type of Curb and Gutter (for use on existing pavement or for street medians only.) - APWA Standard Plan No. 105.

4/ Inverted Shoulders (if permitted by the Subdivision Conditions of Approval) have a standard width of four (4) feet in accordance with DPW Standard Plan 1070-0 and 1080-0. (DPW Standard Plan 1070-0 does not require a special driveway detail.)

5/ Driveways for standard Curb and Gutters - APWA Standard Plan No. 101.

6/ Slough Walls - APWA Standard Plan No. 618 or DPW Standard Plan 6202-0 and 6203-0.

7/ Retaining Walls - APWA Standard Plan Nos. 610, 611, 612, 613, 614, 615, 618, 619 and 620. (The design parameters must be established by a geotechnical engineer and approved by the Geology and Soils Section.)

8/ Sidewalks - DPW Standard Plan No. 1130-0.

f. Pavement Sections

1/ All pavement sections shall be shown on each plan cross-section in accordance with the sketch on Page 44-64.

2/ All partial pavement sections with a minimum width of 24 feet shall be shown on each plan cross-section in accordance with the sketch on Page 44-65.

g. Sub-base Requirements

The sub-base shall be in accordance with the sketch on Page 44-64. The sub-base thickness shall be established by the Department's Materials Laboratory based on CBR tests (see Item XVII on Page 44-29). In lieu of specific recommendations from the Materials Laboratory, the sub-base and its dimensions may be drawn on the permanent plan material in pencil, provided it makes a legible print. Case D on the sketch on Page 44-64 shall be used with the following minimum base thickness:

Residential Traffic- Case D Dimensions
Industrial and Commercial Traffic- 12 inches (Uniformly applied)
Highway Plan Highways- 16 inches (Uniformly applied)

h. Asphalt Concrete Pavement Requirements

Asphaltic concrete (A.C.) pavement shall be designated on the cross-section as follows:

1/ Streets subject to residential traffic only - use Note 1 on the sketch on Page 44-64.

2/ Alleys subject to residential traffic only - use Note 1 on the sketch on Page 44-64.

3/ Streets subject to commercial and industrial traffic - use 1-1/2 inch thick surface course consisting of C2-AR-4000 design mix A.C. over 2-1/2 inch base course consisting of B-AR-4000 design mix A.C. The total thickness shall not be less than 4 inches.

4/ Alleys subject to commercial and industrial traffic - use Note 6 on the sketch on Page 44-64.

5/ Highway Plan Highways - use the same design as is in Item 3/ above.

i. Unpaved Street Sections

Streets that require grading only and no pavement shall be shown on each plan cross-section in accordance with the sketch on Page 44-66.

j. Off-site Access Road Sections

Access roads sections shall be shown on a plan section in accordance with the sketch on Page 44-67.

k. Parkway Grading

1/ For parkway grading where sidewalk is adjacent to curb, show the appropriate grading section for the parkway and adjacent slopes. A typical section is on Page 44-68.

For simplicity of plans, it is preferable to show these sections only once, by themselves, rather than on each section.

2/ When a full width sidewalk is required, parkway grading will be required in accordance with the standard sketch on Page 44-69.

3/ The hillside modification section may be used in areas where the slope of natural ground exceeds 8%. Special approval of the Road, Sewer and Water Section Head is required to use it elsewhere.

4/ For standard sections, where the sidewalk extends to R/W line or six (6) inches from R/W line, provide three (3) feet bench at 1/4 inch per foot outside of the R/W where the slope is downward from the street. Slopes upward from the street 2 horizontal to one (1) vertical or steeper and exceeding five (5) feet in height must have a 3-foot wide bench or a slough wall constructed in accordance with APWA Standard Plan 618 at the toe of slope. Where the slope is five (5) feet in height or less, an eighteen inch wide bench may be utilized. All slopes outside of road right-of-way must also meet the requirements of Title 26 of the County Code (Building Code).

5/ Parkway protection is required in accordance with DPW Standard Plan 1150-0 where there are no sidewalks and the road grade exceeds six (6) percent. This parkway protector is required on the downstream side of all driveways and at all lot lines unless the driveways are constructed within 50 feet of the lot line. The protector must extend as shown on the plan from the edge of payment or curb to the right-of-way line.

6/ At intersections where one of the streets have a grade of eight (8) percent or greater, DPW Standard Plan 1140-0 is required in order to construct a wheelchair ramp (see Item C.1.f.4/ on Page 44-24).

l. Cut and Fill Slopes

Show cut and fill slopes at a maximum steepness of two to one unless approved otherwise on the grading plan. Off-site slope letter agreements are required where needed (see Item XI.B beginning on Page 44-16.)

m. Walls

When a block wall is to be built at the R/W line, show it dashed and label "per grading plan." Slough walls and retaining walls to be constructed as part of the road plan must be shown on the plans (see Item e.6/ and 7/ on page 44-22 for acceptable standard drawings). When a sidewalk is existing or to be built at R/W line or six (6) inches from R/W line, and there is a block wall, the walk shall be extended to join the wall.

8. Other Required Sections

a. The following cross-sections must have special details:

1/ Drainage Ditches

2/ Pavement Transitions

3/ Curb Returns

4/ Medians

5/ Culvert Profile including flow lines

6/ Access to culver inlets and outlets.

7/ All other sections which deviate from standard drawings, unless the deviation can be adequately described by a construction note.

All sections must be drawn to scale and dimensioned in accordance with Item C beginning on Page 44-23.

b. The following standard drawings may be used instead of a cross-section:

1/ Alleys - APWA Standard Drawing No. 100.

All standard drawings must be referenced by a construction note.

9. Jurisdictional Approval

Whenever any development encroaches upon property under the jurisdiction of another agency, this agency must grant approval. The following must be performed by the developer:

a. Whenever a portion of the road construction falls within or immediately-adjacent-to-property under the jurisdiction of an adjoining City or a County other than Los Angeles, the person responsible for road plan approval for that agency must sign the plans prior to the Director of Public Works signing the plans.

b. When some of the road construction is in right-of-way under jurisdiction of Caltrans or within the jurisdiction of other interested agencies, the following note shall be added to the standard notes:

"All work within Caltrans' right-of-way, etc., is subject to inspection and approval of Caltrans. A permit from the Caltrans (or other interested agency) must be obtained prior to construction within their R/W or jurisdiction. It should be noted that Caltrans does not require signing of the plans by a responsible person in their organization. They do carefully review the plans before issuing a construction permit."

It is the private engineer's responsibility to see that any work that is shown on the plans is satisfactory to the agency involved.

C. Plan and Profile Sheets

The upper half of the plan and profile sheet consists of the profile portion and the lower half the plan portion. A typical plan and profile sheet is shown on Page 44-73 at a reduced scale. The following information must be on these sheets:

1. General Items

a. Both the plan and profile views shall show the following:

1/ Existing improvements such as pavement, curbs, gutters (including intersecting existing streets), driveways, drainage structures, utilities, railroad tracks, and buildings in or adjacent to the street right of way.

2/ Approved design of any future construction which may be pertinent to the road design, clearly located in plan and in profile view wherever advantageous to design clarification. (Check with Building and Safety/Land Development and Design Divisions in the Los Angeles County Department of Public Works, adjacent cities and Caltrans for information.)

3/ References of any approved designs, including intersecting streets, storm drains and sewers.

4/ Curb return data on both views.

5/ Natural drainage courses that are used for a street drainage solution. Label these courses on both the street plans and the tract map.

b. Plan and Profile Alignment

The plan and profile should be aligned wherever possible. Where they are not aligned, show the stations of the centerline on both the plan and profile views. This may be done even when the plan view is aligned if the engineer desires.

c. Existing and Future Construction

Show existing and future construction with dash lines (----) and label with the words "Existing" or "Future".

d. New Construction

Show improvements to be constructed with a solid line.

e. Title Block

The Title Block shall meet the requirements as presented in Item A.3.a on Page 44-17. For these sheets, the street names must be listed along with the distances covered. These distances should be referenced to a cross-street and the limit distances rounded off to the nearest 100 feet. The use of stationing is not acceptable.

f. Curbs

1/ Show curb returns in both views, solid in construction view. Projected curb grades of intersecting streets beyond the ECR's are not required. (See Item VIII.F.6 on Page 44-9 for the design procedures to be used.)

2/ Extend curb grades a minimum of 300 feet beyond tract boundary. If a greater length is necessary to justify design, a separate design on profile paper may be submitted. When joining existing curb, show 100 feet of existing profile. Be sure to allow for these extensions in laying out the job.

3/ Whenever there is a catch basin and an inverted shoulder pavement, the detail for curb and gutter transition, the DPW Standard 1170-0 must be utilized. If there is a portland cement gutter, the DPW Standard 1180-0 should be used for a standard 4-foot wide gutter.

4/ Provide wheelchair ramps in accordance with the standard plans established by Caltrans shown on Pages 44-71 and 44-72 where there are sidewalks at street intersections or pedestrian crosswalks. This must meet the criteria established in Section 19956.5 of the California Health and Safety Code and Sections 4450 and 4451(d) of the California Government Code. Wheelchair ramps are not required where the sidewalk grade exceeds 8.33 percent.

Should a driveway be utilized as a wheelchair ramp, a portion of the driveway must meet the requirements noted in the previous paragraph. This includes special concrete borders indicating the location of the street crossing. The crosswalk at Tee intersections is to the right when facing the head of the Tee.

g. Underground Utility Lines

Underground utility lines within or adjacent to construction areas must either be shown on the profile view and on the plan view.

2. Plan View

The plan view within this sheet shall contain the following information in addition to that noted in Item 1.a above:

a. Street name for each street in plan view.

b. Dimensions right-of-way (R/W) widths, curb-to-curb width, parkway width and sidewalk width.

c. Center Lines

The following principles must be utilized when showing the road centerline:

1/ It is important to use only one center line for all maps and plans. It has been found through experience that a construction center line different from the map center line sometimes leads to field construction errors. The center line selected to be used should be the one that is the most meaningful. For example, if the parkway on one side of a 64-foot wide street is modified to 8 feet from the normal 12 feet, the R/W width becomes 60 feet. The half-widths of the street are then 32 feet and 28 feet and the center line does not equally split the R/W width. Normally, a previously existing record centerline will be used. However, if a new center line would be more meaningful, it can be established on the map and used on the plans.

2/ There are two places where construction center lines may be used in addition to map center lines:

a/Knuckles

b/ Offset cul-de-sacs. In this case the "center line" is usually referred to as a "crown line."

d. Center line and curb curve data and angle point data, if any, that includes 1/ angle, 2/ radius, 3/ length and 4/ tangent.

e. Intersections

At intersections, the following:

a/ The stations of all Beginning of Curb Returns (BCR)s, End of Curb Returns (ECR)s, Beginning of Curves (BC)s, End of Curves (EC)s, Point of Compound Curves (PCC)s, Point of Reverse Curves (PRC)s, beginning of improvements and end of improvements.

b/ All elevations at BCRs, ECRs, BCs, ECs, PCCs an PRCs.

c/ The elevations of Point of Intersections (PI)s including Edge of Gutter Point of Intersections (EGPI)s.

f. Topography as necessary for clarification of design.

g. The word, "JOIN" where attaching to an existing improvement.

h. The following construction note for grading, base, pavement, curb, gutter and walk: "Construct street improvements per typical section on Sheet 1." Separate notes are required for cross gutters, temporary turnarounds, guard rail, catch basins, parkway drains, etc. (See the sheet on the "Most Commonly Used Construction Notes," on Pages 44-60 and 44-61, and Item VIII beginning on Page 44-5 for allowable road alignment standards.)

i. All existing utilities within the construction area and give their disposition.

j. Flow Line (F. L.) elevations and height of curb at locations where curb heights begin to vary, at cross gutters and at curb returns.

k. North arrow for each plan view. It is preferable to have North up or to the left.

l. The words, "Grade to Drain" where necessary for any drainage disposition not in a marked drainage course.

m. Drainage courses including 1/ cross-section locations, 2/ center line locations, 3/ center line grade, 4/ daylight line with existing ground and 5/ daylight line elevations. (Contours can be used for clarity.)

n. A construction note requiring reconstruction of any existing driveways affected by the design to the satisfaction of the Los Angeles County Department of Public Works.

o. Finish Surface (FS) elevations wherever necessary to show variations from standard sections, such as in knuckles, cul-de-sacs, or where depressing the crown between cross-gutters.

p. Note "No driveways to be constructed (specify limits where necessary)" wherever road access rights are restricted by deed dedication documents. This will generally apply for all Highway Plan Highways.

q. Location of culverts and access easements.

3. Profile View

The profile view within this sheet shall contain the following information in addition to that noted in Item 1.a above:

a. Scale

Standard horizontal scale is 1 inch equals 40 feet. In areas where the plans contain a lot of details concentrated in a small area, the plan should be reduced to one inch equals 20 feet for the entire plan. Standard vertical scale is one (1) inch equals four (4) feet for

grades below 6% and one (1) inch equals eight (8) feet for grades 6% or greater. However, the same scale should be used throughout a set of plans.

b. Longitudinal Grades

The minimum longitudinal surface grade must be indicated in the following manner:

1/ Elevation of each grade break.

2/ Slope in percent between each grade break.

All intersection landings must be dimensioned in the same manner and also must meet the minimum distance criteria in Item VIII.F.2 beginning on Page 44-8.

c. Profile Lines

1/ Centerline-only profile may be used where development includes lots on each side, and where curb grade parallels centerline grade. When centerline only is used on part of the set of plans, the centerline shall be shown on all of the streets.

2/ Profiles of both curbs shall be used where the development is not on both sides and may be used wherever the engineer prefers. All three profiles are not required where they are parallel, but may be used if the engineer wishes; except that all three may be required by Item 1 above if that situation is applicable.

3/ Show centerline profile of pavement on all existing streets.

4/ A single centerline profile is acceptable for an alley when a typical section applies and the abutting property is within the ownership. Where there are existing structures and/or improvements abutting the alley, show edge of pavement profiles.

5/ Show existing ground surface and future road grades as dashed with a label.

6/ Show profiles of existing ditches and any "grade to drain" area beyond the improvement area. Show rate of grade and daylight elevation for the "grade to drain" area.

7/ Show road grade lines in solid lines with a label.

d. Miscellaneous Requirements

1/ On each profile sheet, label the elevations on the main horizontal grid lines. A minimum of two elevations are required.

2/ Show stations and Top of Curb (T.C.) elevations at every Beginning of Curb Return (BCR), Begin Curve (BC), End of Curve (EC), every grade break and at the end of improvements. Show T.C. elevations at every End of Curb Return (ECR), and for 1/4 points in returns when either grade is 2% or more.

3/ On local streets, either a six (6) or eight (8) curb height may be used. The same curb height must be maintained through out the entire length of street. On a Highway Plan Highway eight (8) C.F. is required. Where both six (6) Curb Face (C.F.) and eight (8) C.F. are used on the same tract, show the height of C.F. in large block letters in profile on each sheet. Erase the grid lines behind the block letters.

4/ Show ground line at centerline when both a centerline profile is used and lots are graded on both sides. Otherwise show ground lines at the ultimate R/W lines.

5/ Where ground line profiles extend off the grid, give existing ground elevations in parenthesis at the edge of the grid at horizontal distances of no greater than one-half station (50 feet).

XIV. Landscaping

As noted in Chapter 21 of this Manual, all landscaping within street right-of-way must be a part of a maintenance assessment district administered by the Department of Parks and Recreation. That Department utilizes the criteria for slope planting presented in Chapter 30 of this Manual.

All plants must not create safety hazards. The Traffic and Lighting Division of the Department of Public Works has the following Design Criteria:

1. The maximum height of a mature plant is thirty (30) inches.
2. The lowest branch of a tree in a street median is seven (7) feet above the ground.
3. Trees are to be planted so as not to block advance street name signs.
4. Trees may not be planted in the following areas:
   a/ Fifty (50) feet from a median left turn pocket.
   b/ Fifty (50) feet from median rounded end.
   c/ Fifty (50) feet from a Begin Curb Return.
   d/ Fifteen (15) feet from an End Curb Return.
   e/ Twenty (20) feet from a light standard.
   f/ Ten (10) feet from fire hydrants or driveways
   g/ Five (5) feet from house walks or water meters.
   h/ Less than six (6) feet from curb face.
5. Landscape (Walls and Monuments) must be located so as not to interfere with traffic line-of-sight.
6 Landscaped medians are to be a minimum of 12 feet wide. The plants must also be hardy and consume as little water as possible.

XV. Street Trees

Instructions for street tree requirements are shown on Pages 44-74 through 44-87.

1. Instructions for placing Street Tree List on Road Plans are as follows:
   a. Place Standard Note 20 on Title Sheet of the Road Plans. (See Page 44-59.)
   b. Place street tree list shown on Item 2 below on Title Sheet of the road plans, and reference this list in the standard notes.
   c. The tree specie shall be selected and installed in accordance with the following documents:

Standard Planting Specifications and Requirements	-	DPW Standard 5000-0 through 5004-0
Special Provisions for Tree Planting - Subdivisions	-	Pages 44-76 through 44-82
Guide for Selecting Trees	-	Page 44-83
Recommended Trees, Parkways and Medians	-	Pages 44-84 through 44-87

All trees to be used must have prior approval and be inspected prior to planting.

d. The spacing of trees shall be approximately 50 feet apart, the number of trees equals length divided by 50 + 1, usually one tree per normal 50-foot-wide residential lot frontage. The spacing shall also meet the conditions in Item XIV above. The exact location and number of trees to be planted shall be determined by the construction field inspector.

e. Trees must be planted within road right-of-way in accordance with the Special Provisions for Tree Planting-Subdivisions are on Pages 44-76 through 44-82.

f. Private and future streets must have tree planting that will meet the above requirements.

2. Sample Street Tree List

STREET TREE LIST				
STREET	LIMITS	NO. TREES LEFT RIGHT	SPECIES	
			BOTANICAL NAME	(COMMON NAME)
"A" STREET	"B" STREET TO "F" STREET	21 29	Liquid Amber Styraciflua	(American Sweet Gum)

XVI. Street Lighting

The procedures for street light layouts by private developers is on Pages 44-89 through 44-111. This manual has most of the needed information regarding street lighting. Should there be any questions contact the Street Lighting Section, Traffic and Lighting Division at (818) 458-5926.

XVII. Roadway Structural Sections

The roadway structural sections are determined by the Materials Laboratory of Construction Division (see Chapter 21 of this Manual). The section is determined based on the CBR test performed by this laboratory and the Expansion test performed by this laboratory which are not in accordance with ASTM or Building Code standards. The plate on Page 44-65 contains the required sections that may be modified based on test results prior to paving.

XVIII. Street Signs and Striping

Current County policy requires that the developer install street and highway names, and house numbering signs. In general, the County installs all traffic safety signs and stripings after the street has been accepted for maintenance by the County. The County may require the developer to install some traffic safety signs associated with striping.

The procedures for the preparation and location of street signs and striping plans by private consultants are on Pages 44-112 through 44-135 and Page 44-136 through 44-147, respectively. These manuals, in conjunction with the Caltrans Traffic Manual, contain most of the information needed to meet County minimum standards for street signs and striping. Should there be any questions regarding this subject, contact the Traffic Design Section of Traffic and Lighting Division at (818) 458-5904.

XIX. Easements

Easements shall not be granted or recorded within areas proposed to be granted, dedicated, or offered for dedication for public streets, highways, public access rights, County maintenance access rights to culverts and other special structures, building restriction rights, or other easements until after the final map is filed with the County Recorder. If easements are granted after the date of tentative approval, a subordination agreement must be executed by the easement holder prior to the filing of the final map.

A. Processing Easements by Separate Document

Refer to Chapter 29 of this Manual for processing gratis easements.

B. Procedure for Vacating an Easement Concurrently with the Recordation of a New Tract.

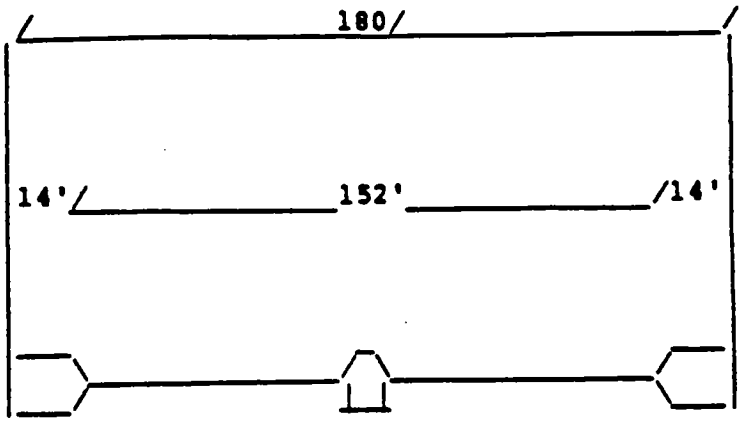
If a tract is to be filed over property that has an existing easement that is no longer required, the easement can be vacated concurrently with the recordation of the tract. Refer to Chapter 29 of this Manual.

C. Off-site easements obtained by the County.

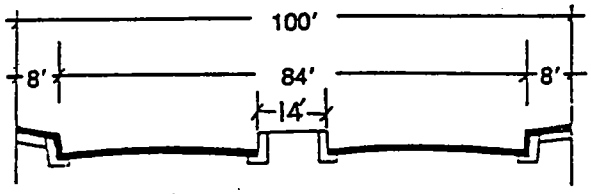
For requirements refer to Chapters 29 and 30 of this Manual.

HIGHWAY RIGHT OF WAY AND WIDTH DIAGRAMS

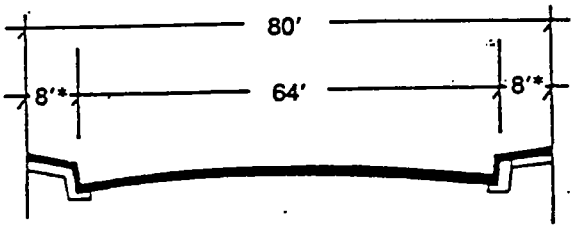
1. EXPRESSWAY



2. MAJOR HIGHWAY

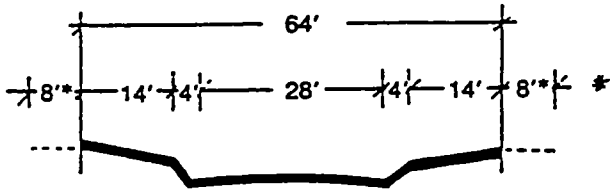


3. SECONDARY HIGHWAY



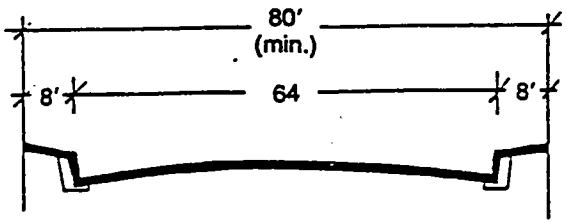
* See item II.B Page 44-1

4. LIMITED SECONDARY HIGHWAY



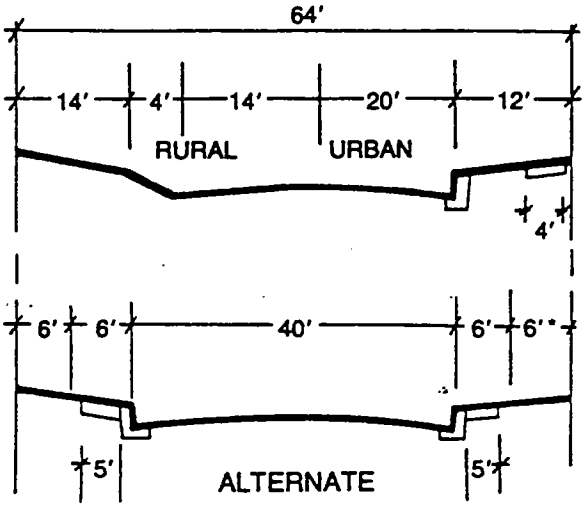
* See Item II B Page 44-1

5. PARKWAY



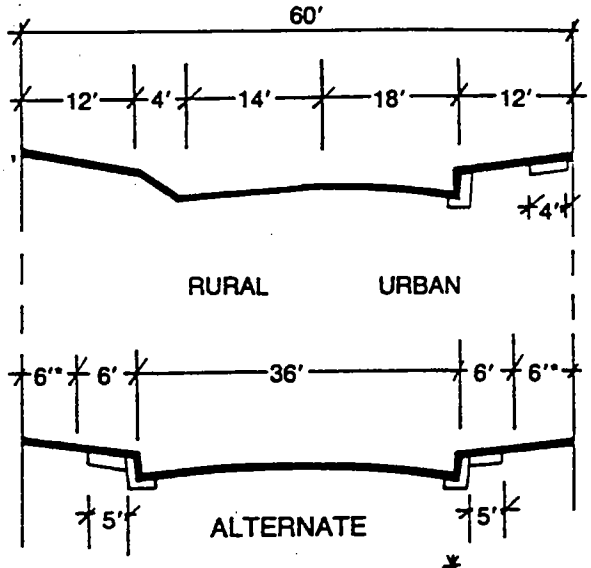
LOCAL STREET RIGHT OF WAY AND WIDTH DIAGRAMS

1. RESIDENTIAL ENTRANCE STREETS FROM HIGHWAYS, THRU COLLECTOR STREETS, SECTION AND QUARTER-SECTION LINE COLLECTOR STREETS, AND STREETS ADJACENT TO SCHOOLS AND MULTIPLE RESIDENTIAL USES.



* See Item III A Page 44-2

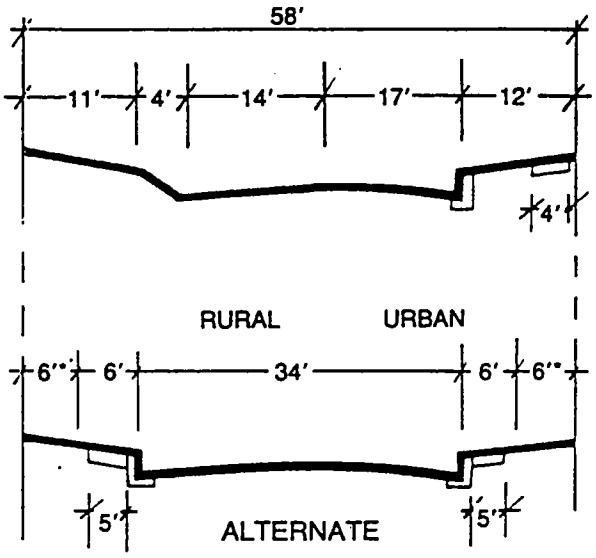
2. INTERIOR COLLECTOR STREETS, CUL-DE-SAC STREETS MORE THAN 700 FEET IN LENGTH, AND LOOP OR OTHER LOCAL STREETS MORE THAN 1,400 FEET IN LENGTH — ONE OR TWO FAMILY RESIDENCES.



* See Item III A Page 44-2

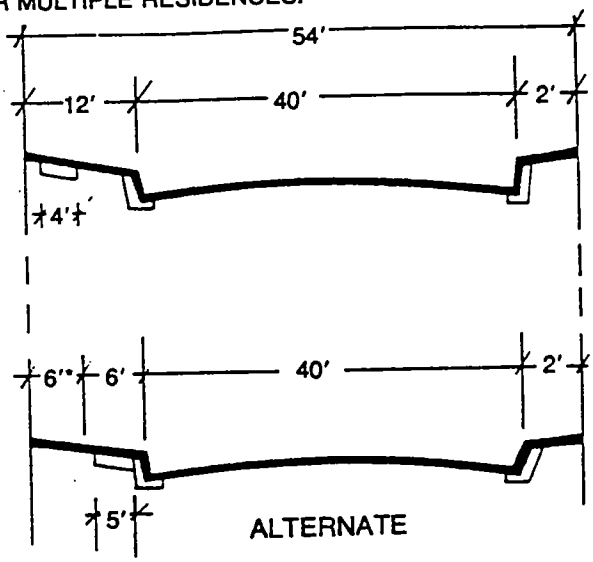
LOCAL STREET RIGHT OF WAY AND WIDTH DIAGRAMS(Cont.)

3. INTERIOR LOCAL STREETS, CUL-DE-SAC STREETS HAVING A LENGTH OF 700 FEET OR LESS, LOOP OR OTHER LOCAL STREETS HAVING A LENGTH OF 1,400 FEET OR LESS.



* See Item III A Page 44-2

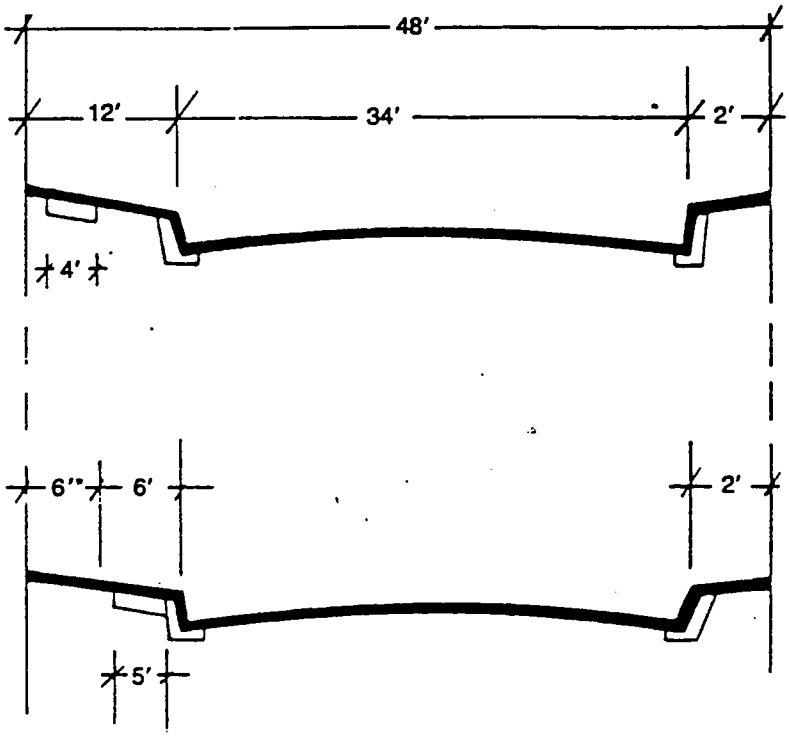
4. SERVICE STREET SERVING AS A COLLECTOR STREET FOR MULTIPLE RESIDENCES.



* See Item III A Page 44-2

LOCAL STREET RIGHT OF WAY AND WIDTH DIAGRAMS(Cont.)

5. SERVICE STREET SERVING ONE FAMILY AND TWO FAMILY RESIDENCES.



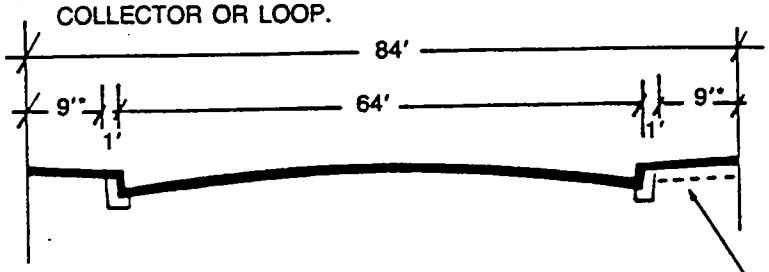
ALTERNATE

*

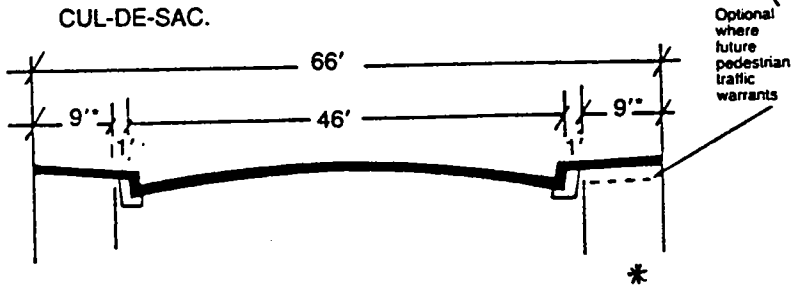
See Item III A Page 44-2

LOCAL STREET RIGHT OF WAY AND WIDTH DIAGRAMS(Cont.)

6. INDUSTRIAL AND COMMERCIAL STREET — ENTRANCE, COLLECTOR OR LOOP.



7. INDUSTRIAL AND COMMERCIAL STREETS — CUL-DE-SAC.



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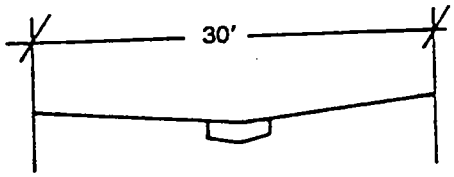
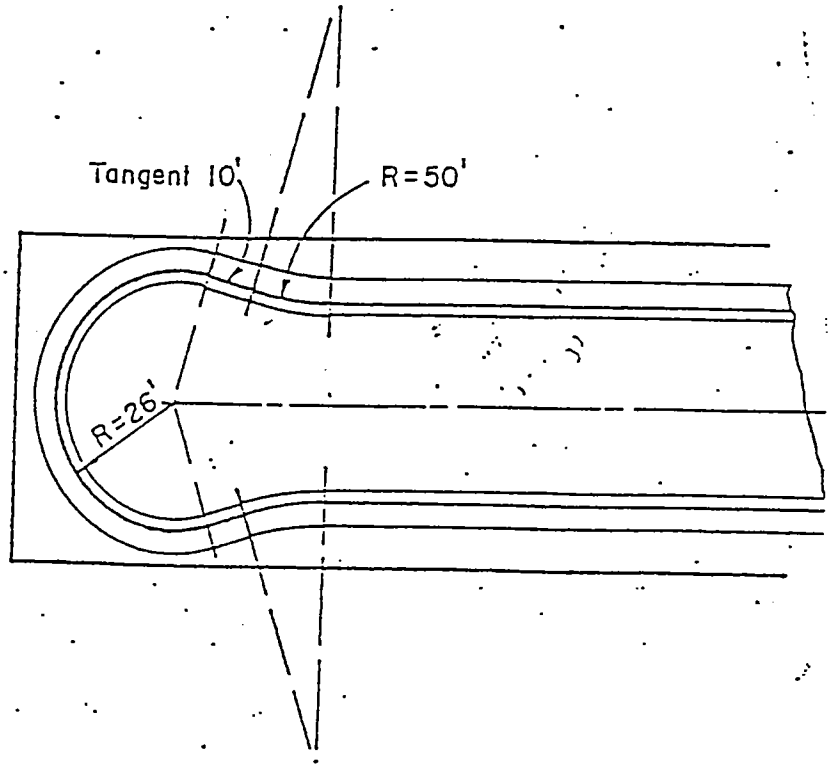
See Item III A Page 44-2

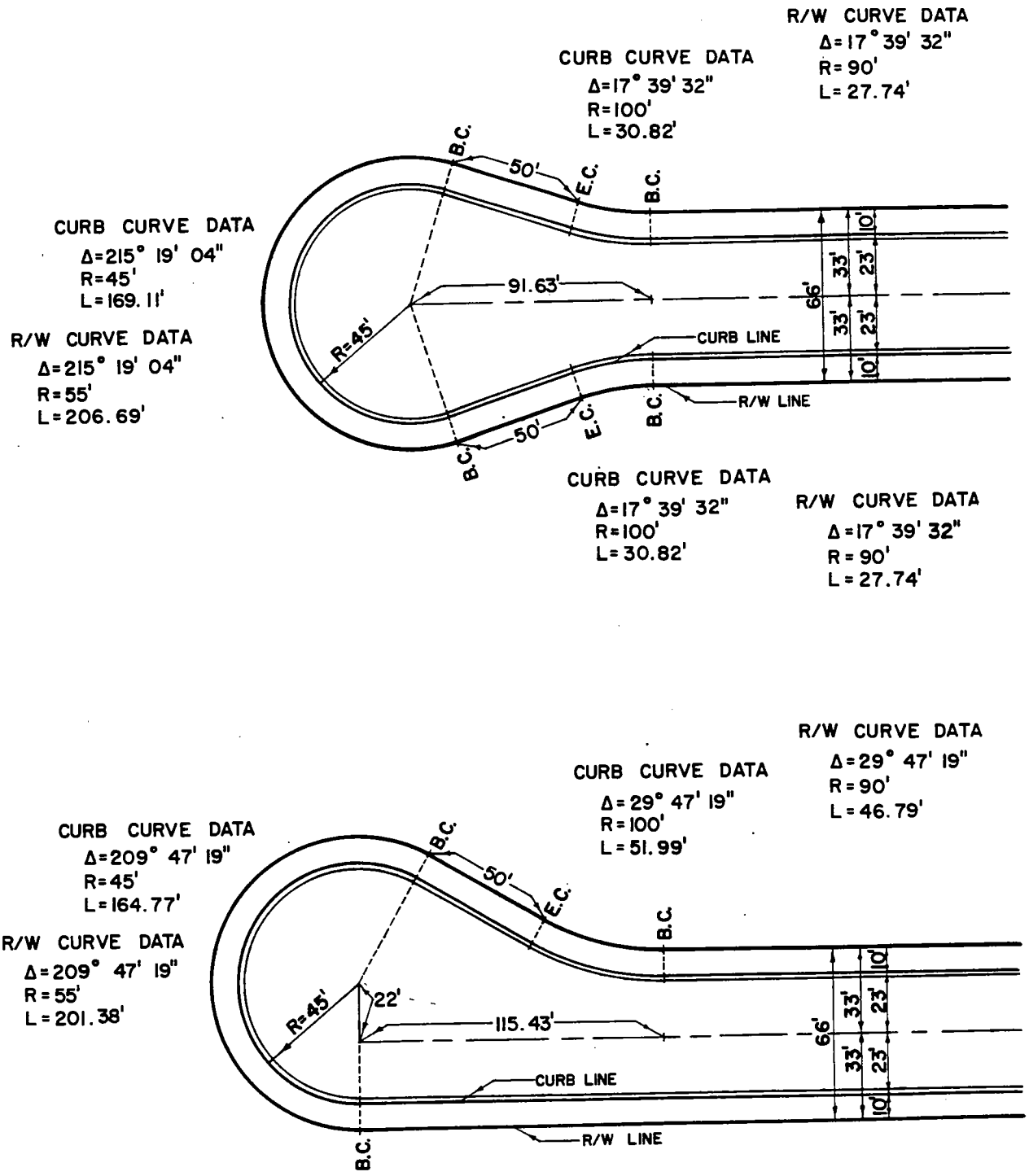
8. ALLEY.





Enlarged

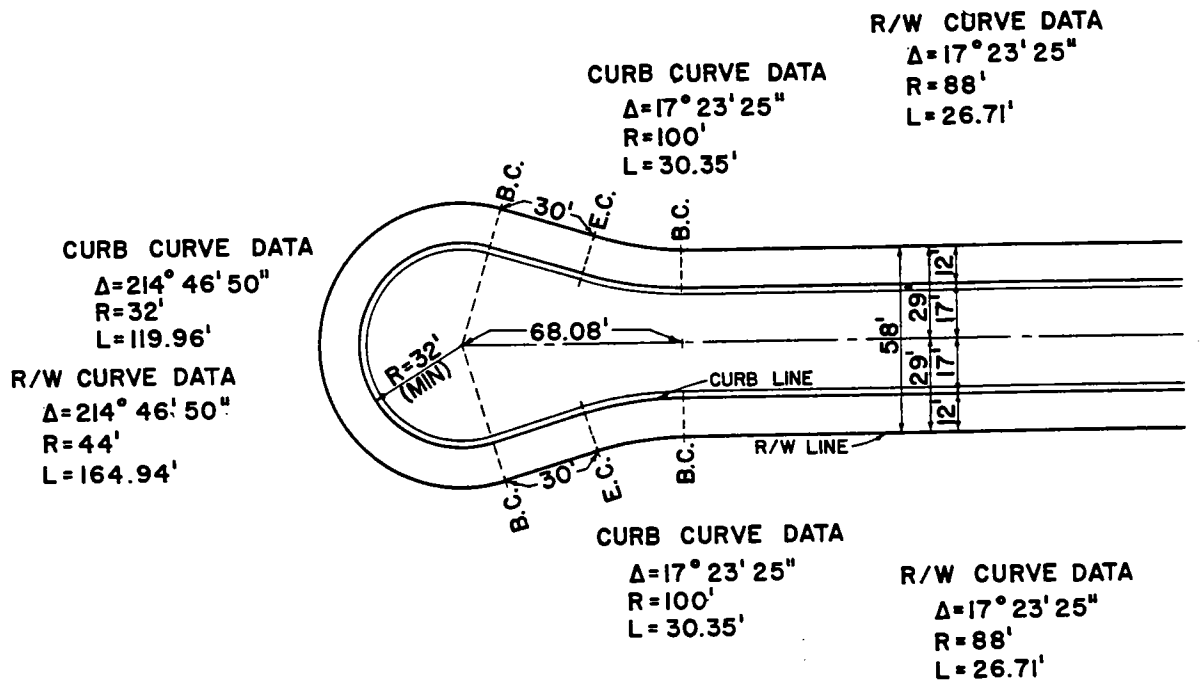
TEMPORARY TURNAROUNDS

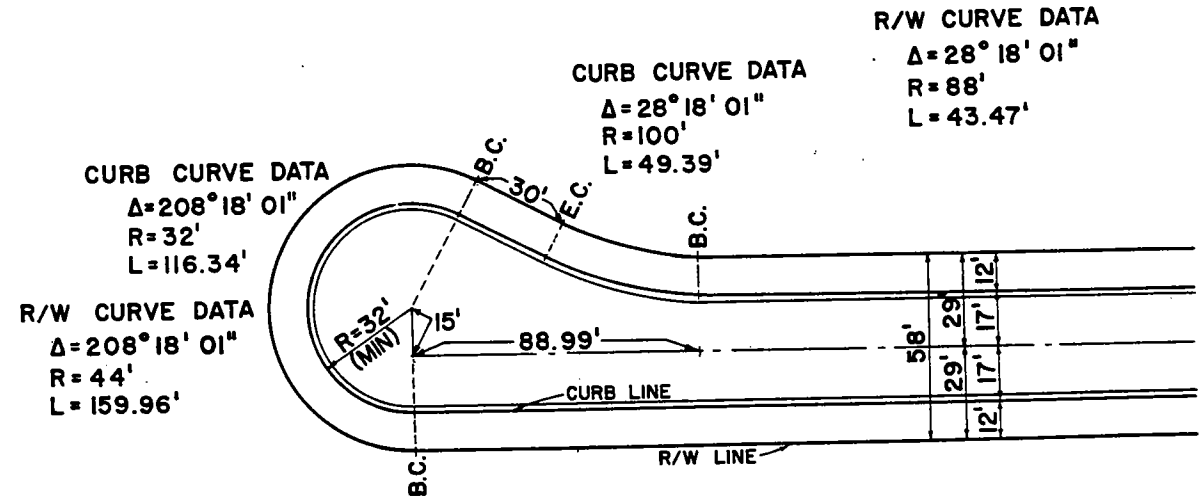


DRAWN BY R.L.J.
CHECKED BY J.A.M
REV. 12-78 REVISED TITLE.

SKETCH - 1

4-37



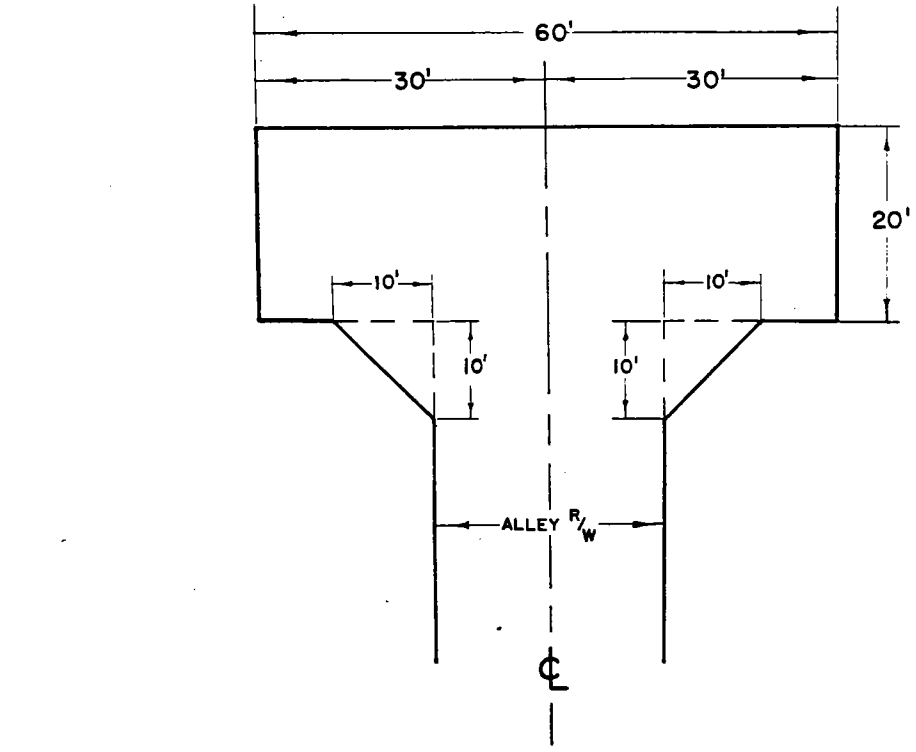


NOTES:

1. PARTIALLY OFFSET TURNAROUNDS ARE ACCEPTABLE.

DRAWN BY: D. BOWERS, 5-66. CHECKED BY: E. BRISS, 5-66.
REV. 12-78 REVISED CURVE DATA AND TITLE, NOTE NO. 1 ADDED.

SKETCH-2


60'
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ALLEY R/W
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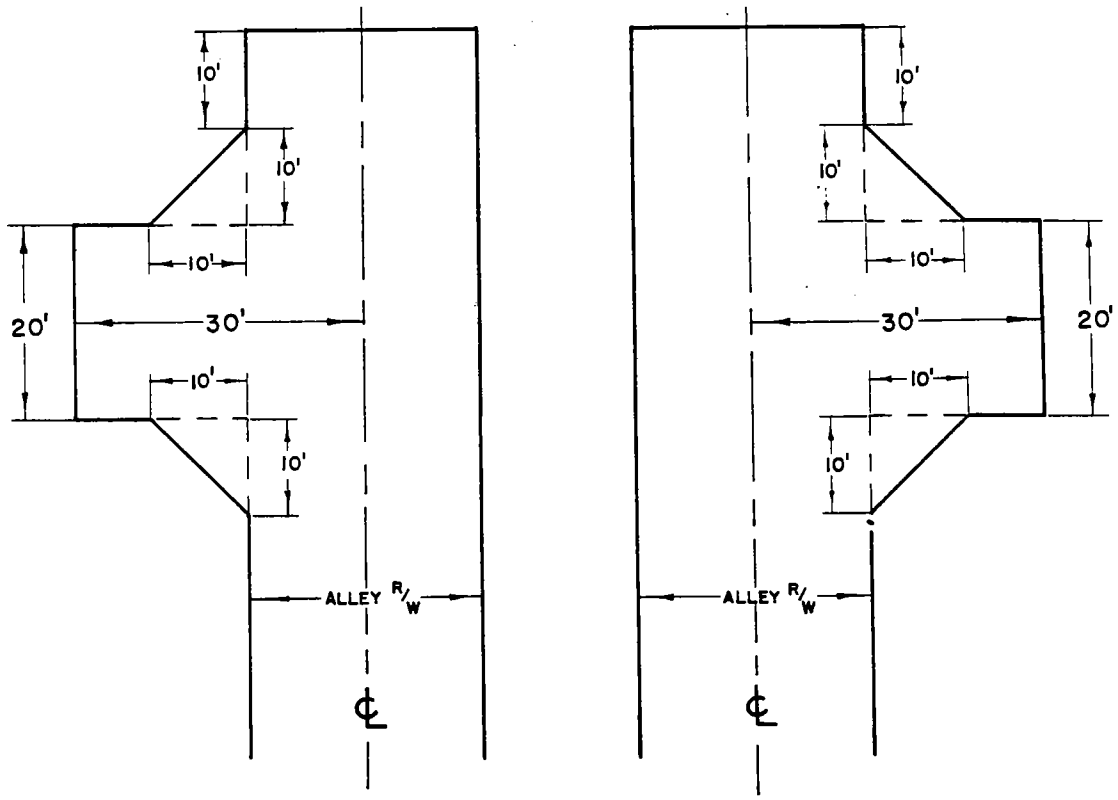
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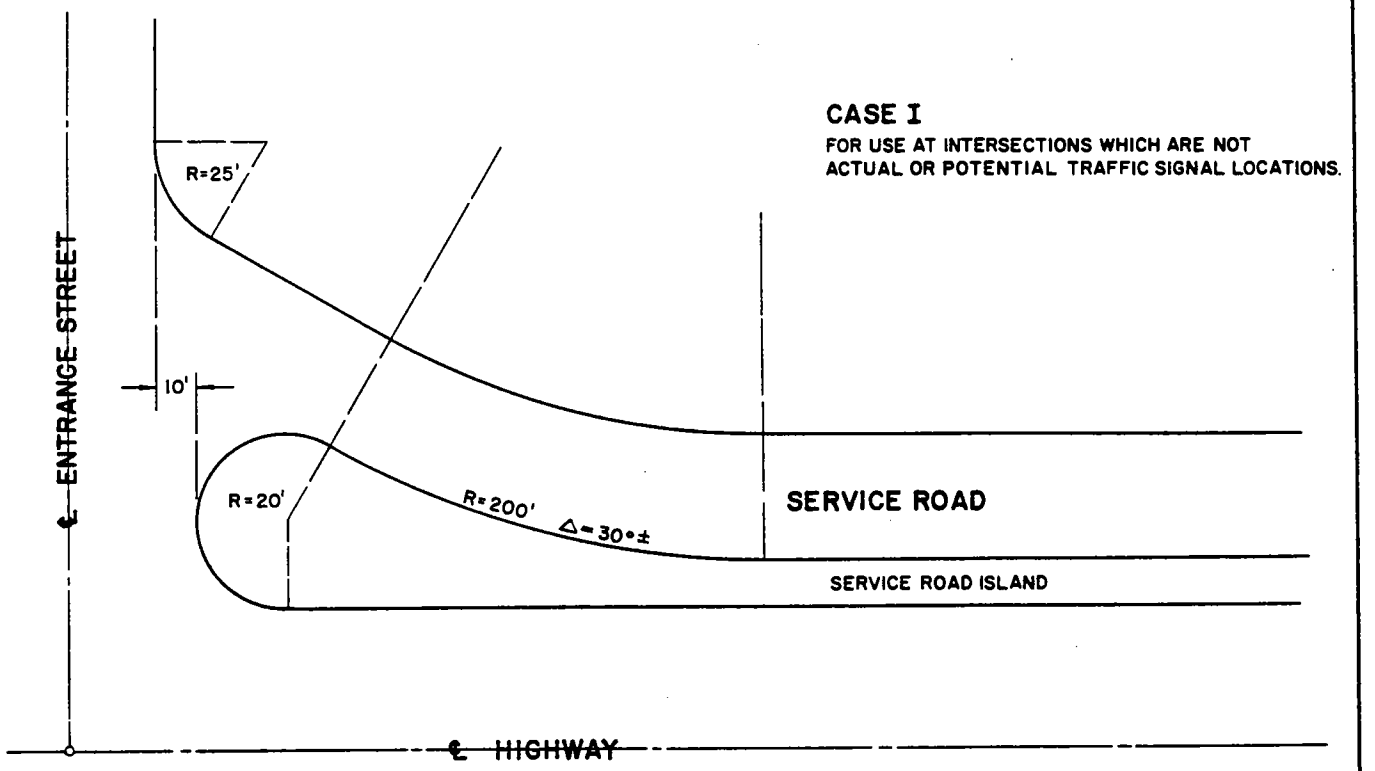
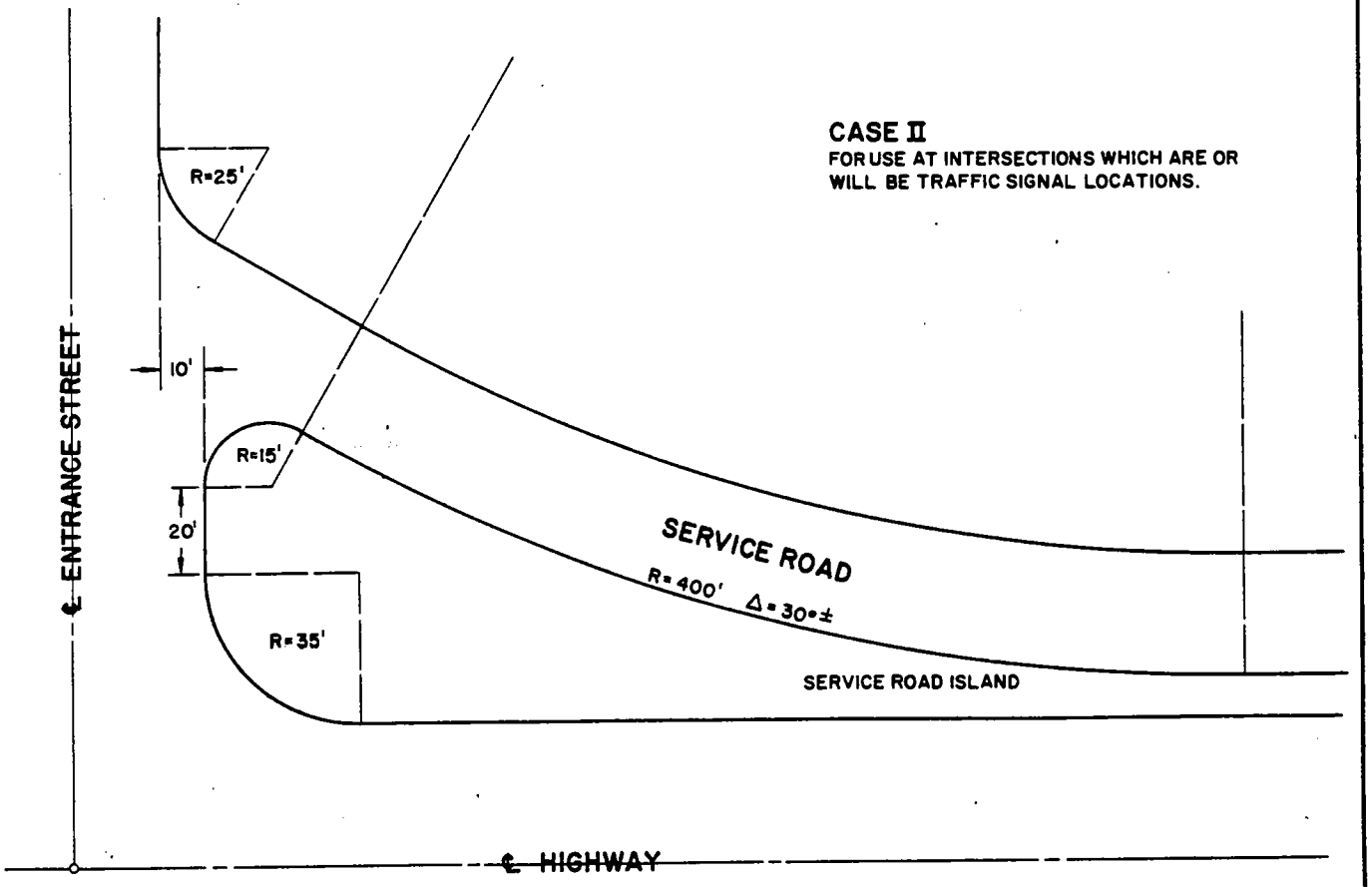
10'
ALLEY R/W
℄

SKETCH-3

-4-39


CASE I
FOR USE AT INTERSECTIONS WHICH ARE NOT ACTUAL OR POTENTIAL TRAFFIC SIGNAL LOCATIONS.
R=25'
10'
R=20'
R=200'
Δ=30°±
SERVICE ROAD
SERVICE ROAD ISLAND
℄ ENTRANCE STREET
℄ HIGHWAY


CASE II
FOR USE AT INTERSECTIONS WHICH ARE OR WILL BE TRAFFIC SIGNAL LOCATIONS.
R=25'
10'
R=15'
20'
R=35'
SERVICE ROAD
R=400'
Δ=30°±
SERVICE ROAD ISLAND
℄ ENTRANCE STREET
℄ HIGHWAY

SKETCH - 4

A-10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

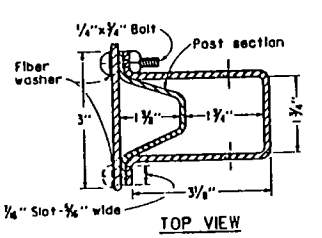
REGISTERED CIVIL ENGINEER

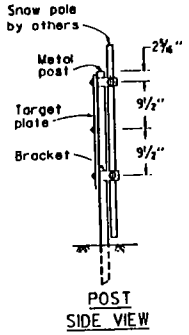
July 1, 1992
PLANS APPROVAL DATE

P. Lowden Jr. 12284 3-31-93 CIVIL

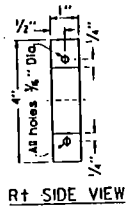
NOTES

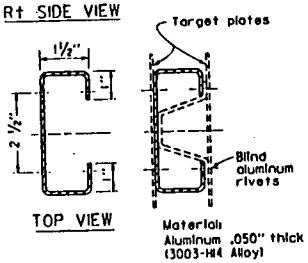
1. See Standard Plan AT3A for additional object markers.



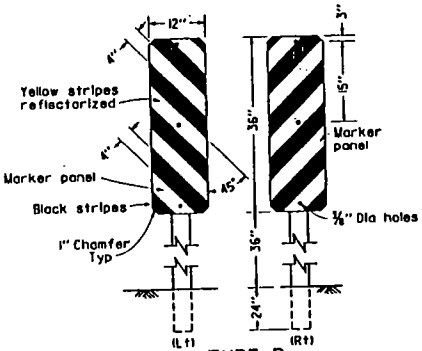


SNOW POLE BRACKET

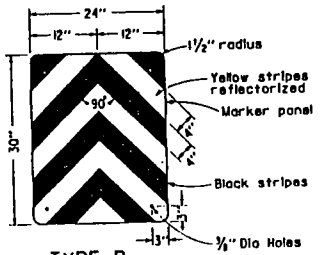




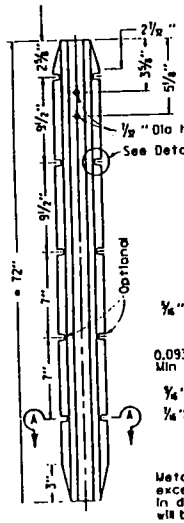
TWO PLATE POST MOUNT

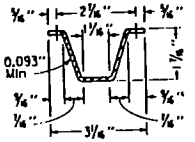


TYPE P
OBJECT MARKER
(METAL POST OR 4"X4" WOOD POST)



TYPE R
OBJECT MARKER
PANEL



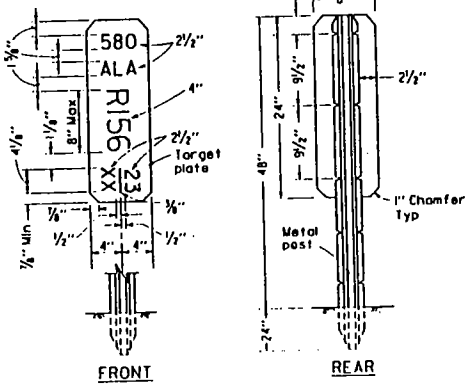


Metal Post to be as shown except that minor variations in design and dimensions will be permitted to meet manufacturer's standards

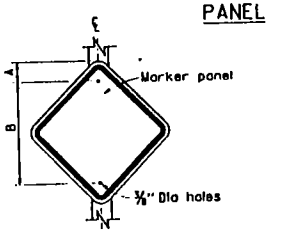
* 96" for Type P object marker and 36" for Type K object marker

METAL POST DETAIL

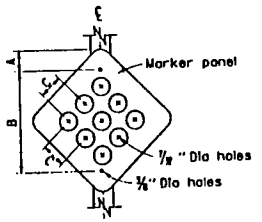
White target plate with black Series D numerals and letters XX- Post miles equation BK or AH when directed by the Engineer.



MILEPOST MARKER



TYPE N-1,N-2,N-3
OBJECT MARKERS



TYPE N-4,N-5
OBJECT MARKERS

TYPE N	SIZE	BORDER WIDTH	MARGIN WIDTH	A	B	C	CORNER RADIUS
-1,-2,-3	18"x18"	3/8"	3/8"	3"	18"	—	1 1/2"
-4,-5	18"x18"	—	—	3"	18"	4"	1 1/2"

N-1. Yellow reflective background with black border.
N-2. Red reflective background with black border.
N-3. Orange reflective background with black border.
N-4. Yellow background with 9-3" yellow reflectors.
N-5. Red background with 9-3" red reflectors.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MARKERS
NO SCALE

A73B

STD. PLAN A73B

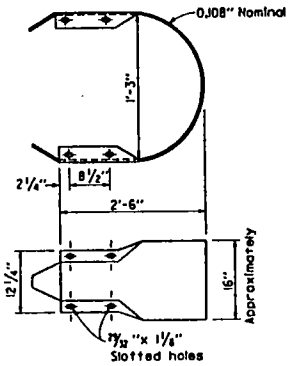
20
44-41

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

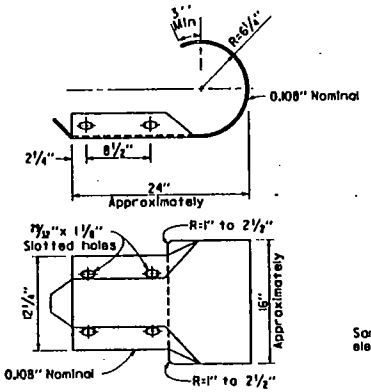
REGISTERED CIVIL ENGINEER

July 1, 1992
PLANS APPROVAL DATE

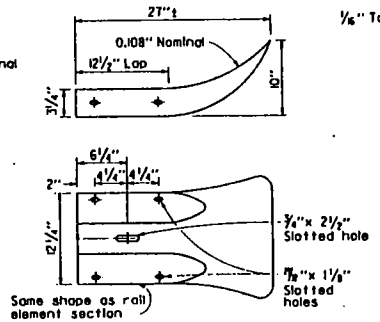
R.E. Summers No. 29741 Exp. 3-31-93 CIVIL STATE OF CALIFORNIA



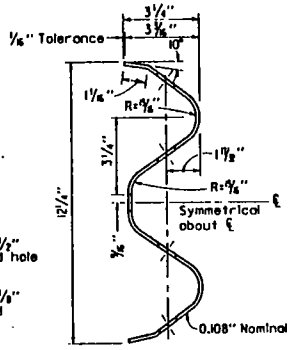
RETURN SECTION



TERMINAL SECTION
TYPE A



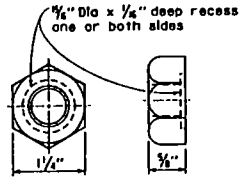
TERMINAL SECTION
TYPE B



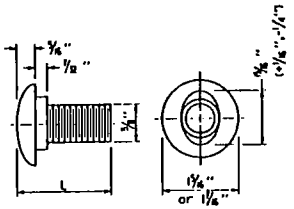
SECTION THRU
RAIL ELEMENT

NOTES

1. Terminal sections will not be installed on the trailing end of guard railing placed adjacent to one-way roadways.
2. Back-up plate to be used between guard rail element and steel block on steel post where there is no rail element splice. See Standard Plan A77A
3. For end section details, see Standard Plan A77J.
4. For terminal section Type C, see Standard Plan A77H

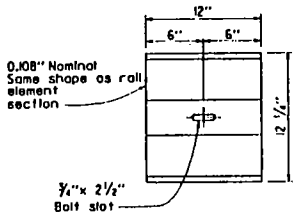


⅝" Ø RECESS NUT

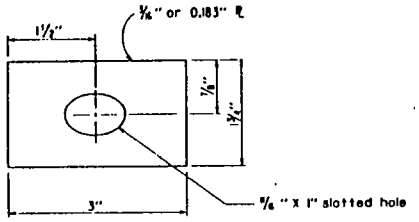


⅝" Ø BUTTON HEAD BOLT

L	THREAD LENGTH
1¼"	full thread length
2"	1½" Min thread length
9½"	1¾" Min thread length
18"	2½" Min thread length



BACK-UP PLATE
See Note 2



FLAT PLATE WASHER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING STANDARD HARDWARE

NO SCALE

A77B

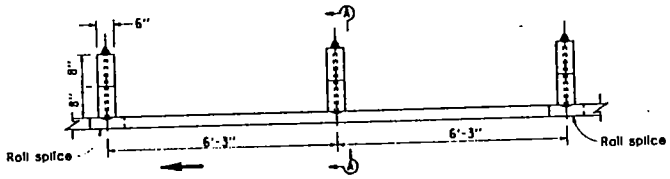
STD. PLAN A77B

27
44-42

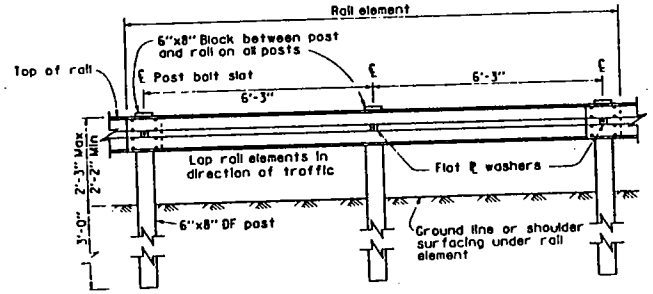
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

July 1, 1992
PLANS APPROVAL DATE

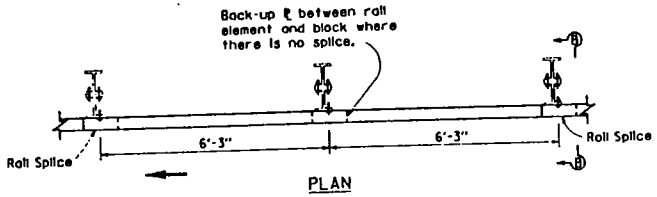


PLAN

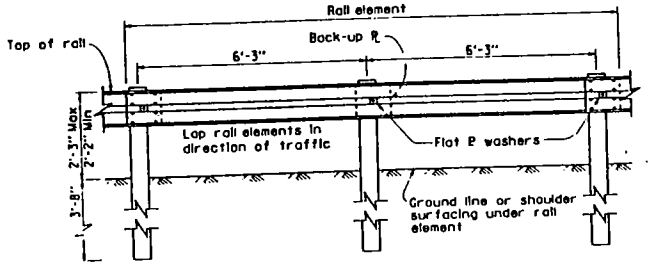


ELEVATION

METAL BEAM GUARD RAIL WITH WOOD POST AND BLOCKS

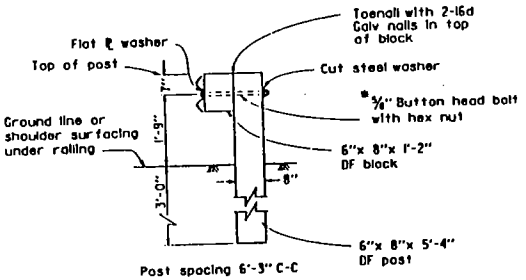


PLAN



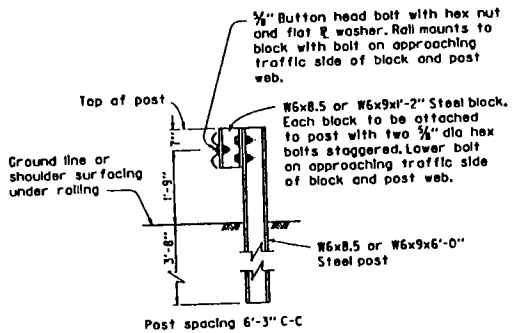
ELEVATION

METAL BEAM GUARD RAIL WITH W6x8.5 OR W6x9 STEEL POSTS AND BLOCKS

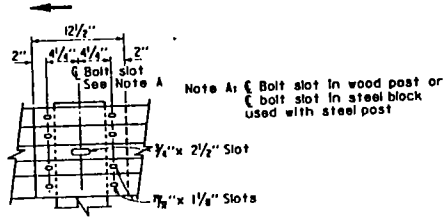


SECTION A-A

* Where bolt is reversed or ⅝" threaded rod is used to mount rail, no more than ½" of thread may be exposed on traffic side of rail.

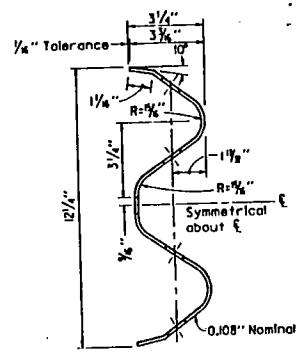


SECTION B-B



RAIL SPLICE DETAIL
ELEVATION VIEW

Splice the overlapped ends of the rail elements with ⅝"x 1¼" button head oval shoulder bolts and ⅝"x 1¼" recessed hex nut in the ⅞"x 1⅛" slots. Total 8 per rail splice: 4 per terminal section and end section. Lap rail elements in direction of traffic.



SECTION THRU
RAIL ELEMENT

NOTES

1. For details of standard hardware used to construct guard railing, see Standard Plan A77B.
2. For details of posts and blocks used to construct guard railing, see Standard Plan A77C.
3. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
4. Top of rail to be 27" above the ground line or shoulder surfacing under the rail element.
5. For guard railing approach flares, see Standard Plans A77D and A77E.
6. For embankment widening details to accommodate guard railing approach flares, see Standard Plan A77F.
7. For guard railing end anchor details, see Standard Plans A77G and A77I.
8. For guard railing connection details to bridge railing, retaining walls and abutments, see Standard Plan A77J.
9. For guard railing connection details to bridge sidewalks and curbs, see Standard Plan A77K.
10. For dike positioning with guard railing installations, see Standard Plan A77F.
11. Direction of traffic indicated by →

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING

NO SCALE

A77A

STD. PLAN A77A

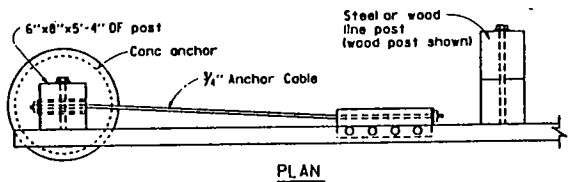
26
44-43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

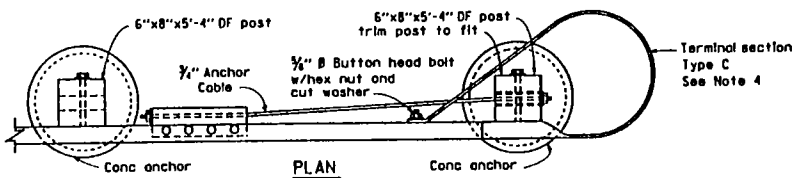
REGISTERED CIVIL ENGINEER

July 1, 1992
PLANS APPROVAL DATE

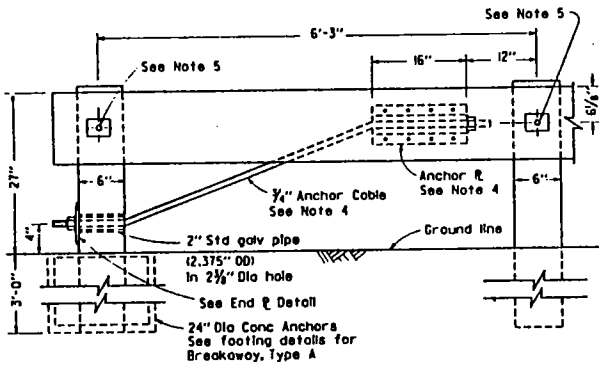
J. E. Summers
No. 29141
Exp. 3-31-95
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA



PLAN

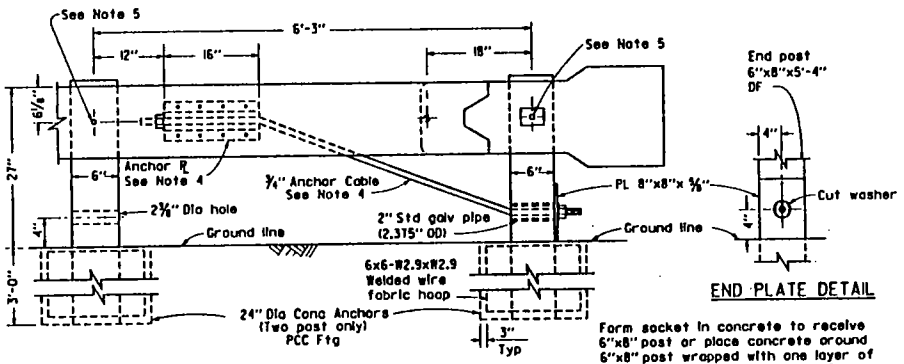


PLAN



ELEVATION

CABLE ANCHOR ASSEMBLY
(BREAKAWAY, TYPE B)

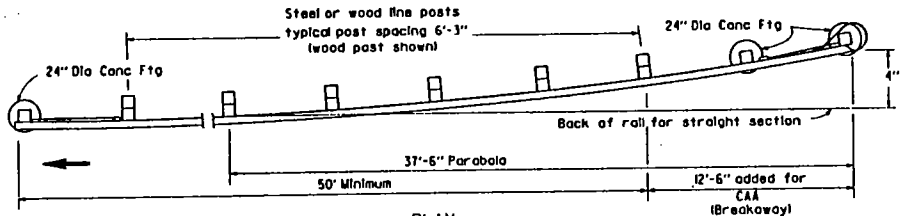


ELEVATION

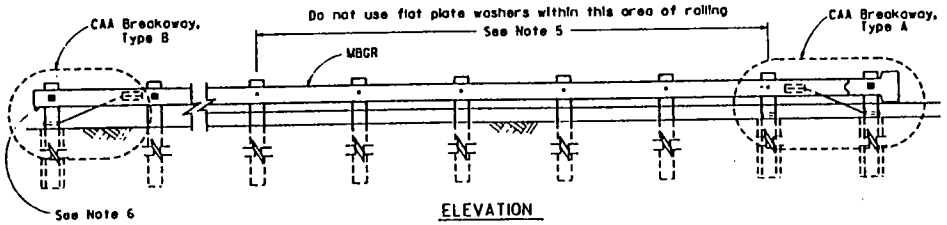
CABLE ANCHOR ASSEMBLY
(BREAKAWAY, TYPE A)

END PLATE DETAIL

Form socket in concrete to receive 6"x8" post or place concrete around 6"x8" post wrapped with one layer of ½" thick expanded polystyrene foam sheeting. Do not nail polystyrene to post. Post to be centered in concrete footing.



PLAN



ELEVATION

BREAKAWAY END ANCHORS

NOTES

1. For typical use of cable anchor assembly (Breakaway, Type A), see Standard Plans A77D and A77E.
2. Cable anchor assembly (Breakaway, Type B) is typically used on the trailing end of guard railing for embankment installations except two-way road beds less than 60 feet in width.
3. Direction of traffic indicated by →
4. For details of Terminal Section Type C, anchor plate and ¾" cable, see Standard Plan A77H.
5. Do not use flat plate washers under head of rail mounting bolt at the second anchor post of Type A anchors and next five line posts. Use flat plate washers on other line posts and at the first anchor post of Type A anchor and at the Type B anchor post.
6. For Trailing end of guard rail adjacent to one-way roadway omit terminal section.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GUARD RAIL END ANCHORS (BREAKAWAY)

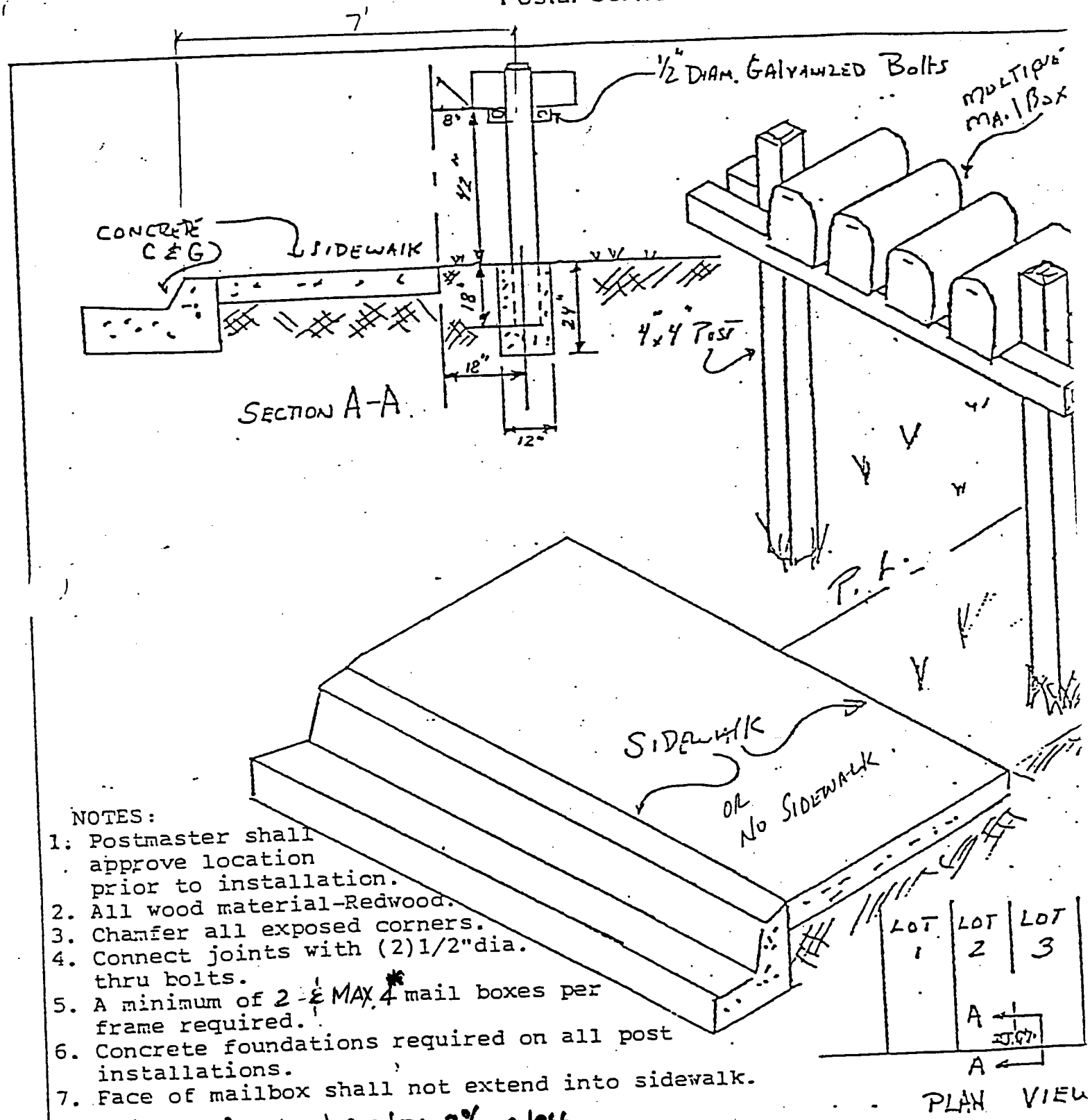
NO SCALE

A77G

STD. PLAN A77G

32
44-44

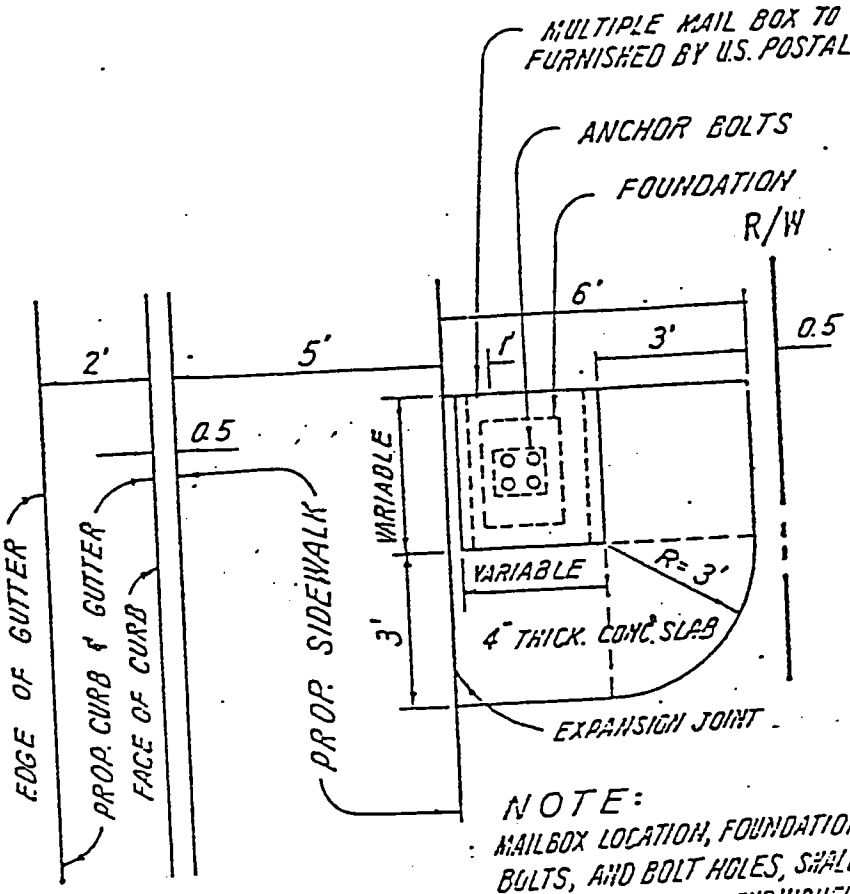
United States
Postal Service



NOTES:
1. Postmaster shall approve location prior to installation.
2. All wood material-Redwood.
3. Chamfer all exposed corners.
4. Connect joints with (2)1/2"dia. thru bolts.
5. A minimum of 2 & MAX. 4* mail boxes per frame required.
6. Concrete foundations required on all post installations.
7. Face of mailbox shall not extend into sidewalk.

* only for street grades 8% or less

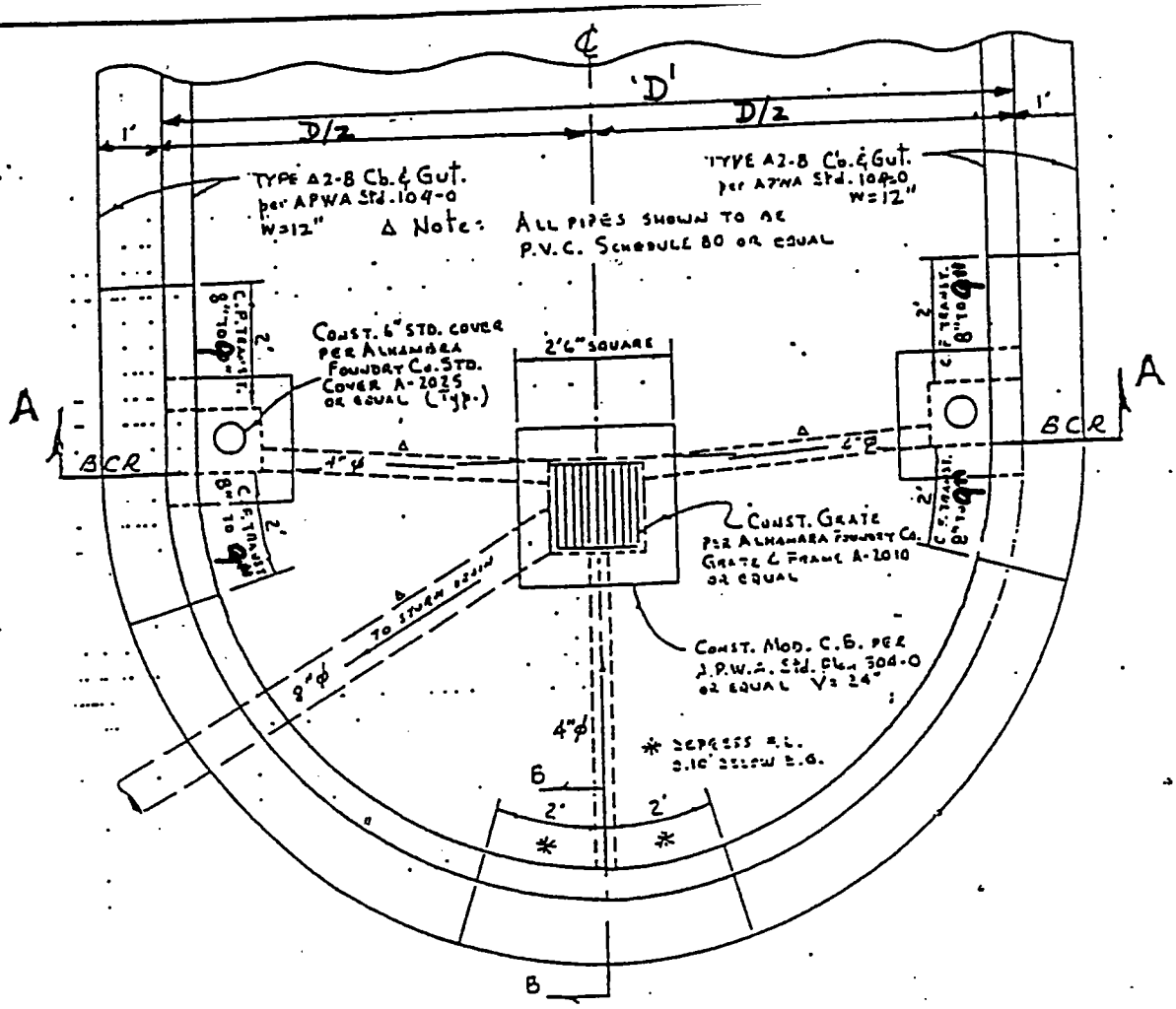
		MANAGEMENT SECTIONAL CENTER ALHA
	5-5-82	Standard - MAIL BOX INSTAL. (SID WHEN SIDEWALK ABUTS C
APPROVED BY	DATE	Scale NONE · Date 5-5-82 · DRAWIN

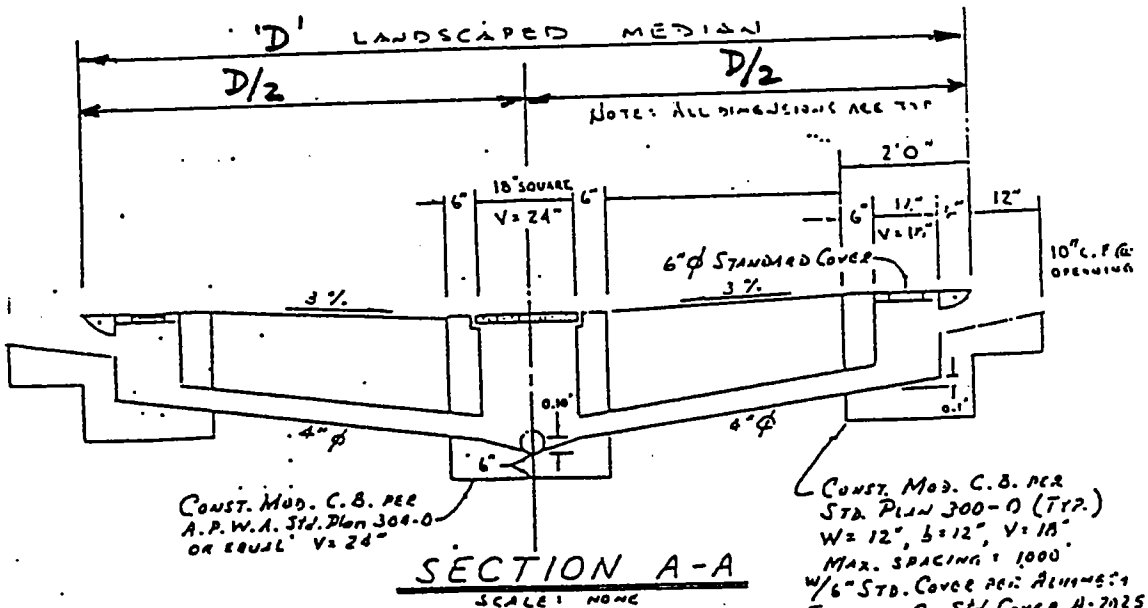


NOTE:
MAILBOX LOCATION, FOUNDATION, ANCHOR BOLTS, AND BOLT HOLES, SHALL CONFORM TO SPECIFICATIONS FURNISHED BY THE POST MASTER MAILBOX FOUNDATION AND SLAB TO BE A MONOLITIC POUR

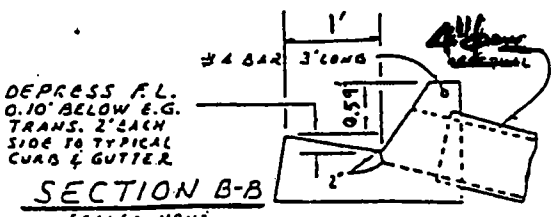
MULTIPLE MAILBOX INSTALLATION

1. MAIL RECEPTACLES SHAL NOT BE INSTALLED WITHIN 20' OF THE B.C.R.'S OR E.C.R.'S.
2. ENTIRE INSTALLATION SHALL BE MAINTAINED BY U.S. POSTAL SERVICE.





SECTION A-A
SCALE: NONE

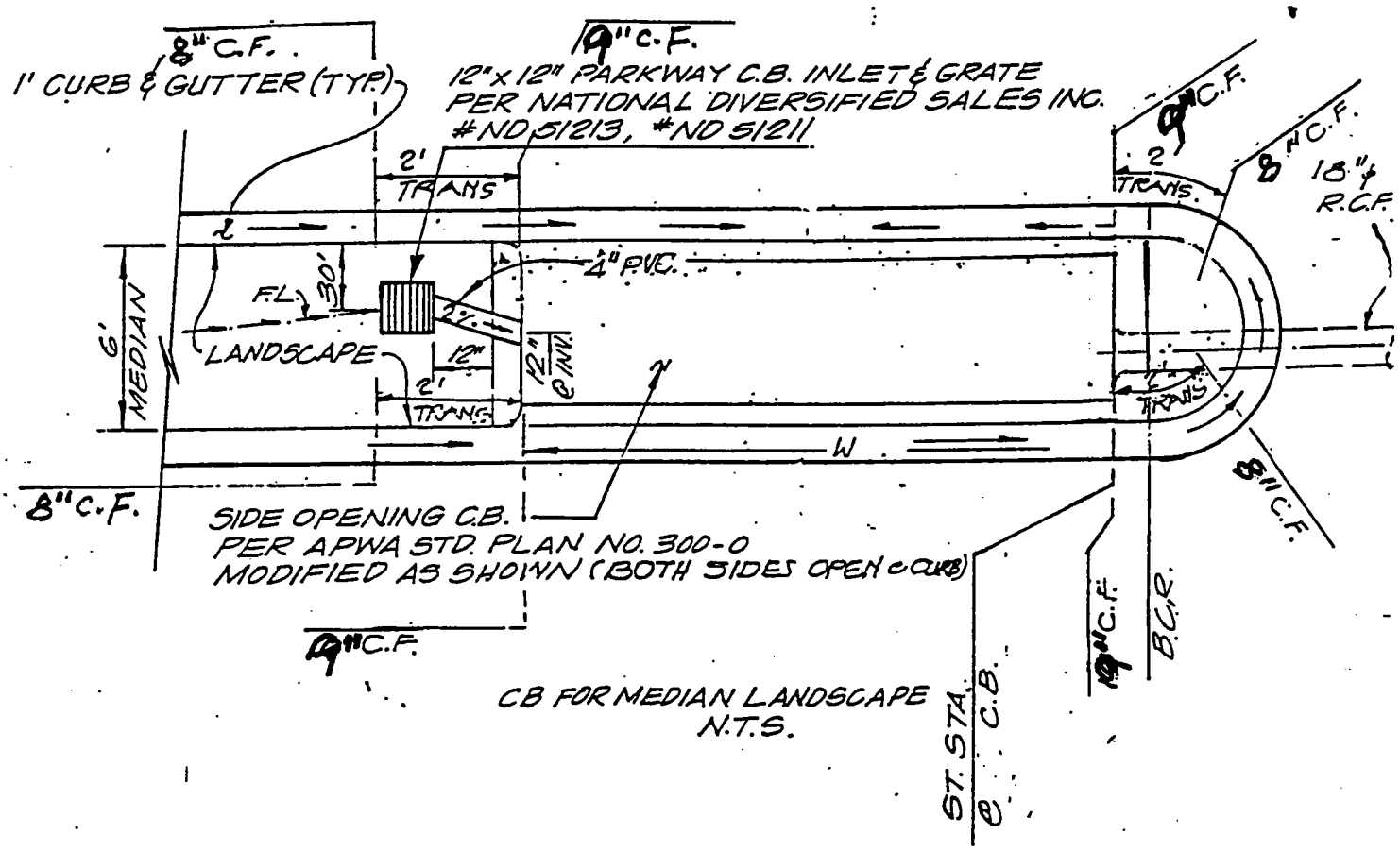


SECTION B-B
SCALE: NONE

For Sprinkler Water only
@ Raised Median

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS				DIVISION	
REF.	DRAWN BY	CHECKED BY	RECOMMENDED BY	APPROVED	DRAWING NUMBER
SCALE	DATE	DATE	DATE	DATE	

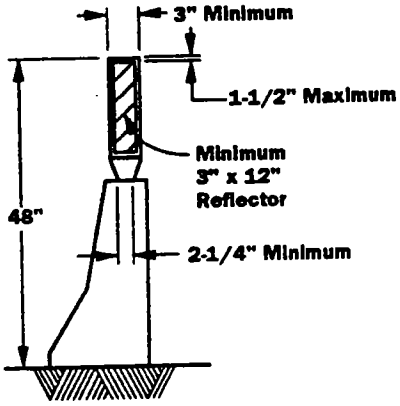
82-0009 DPW 6/86 STANDARD DRAWING FORM



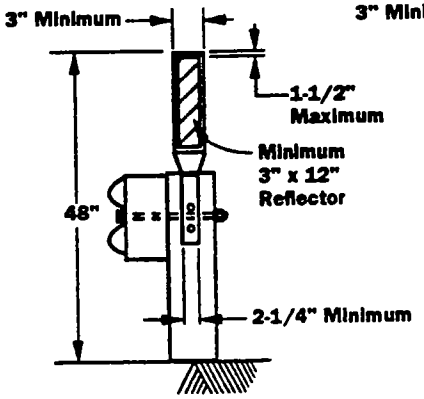
CB FOR MEDIAN LANDSCAPE
N.T.S.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS				DIVISION	
REF.	DRAWN BY	CHECKED BY	RECOMMENDED BY	APPROVED	DRAWING NUMBER
SCALE	DATE	DATE	DATE	DATE	

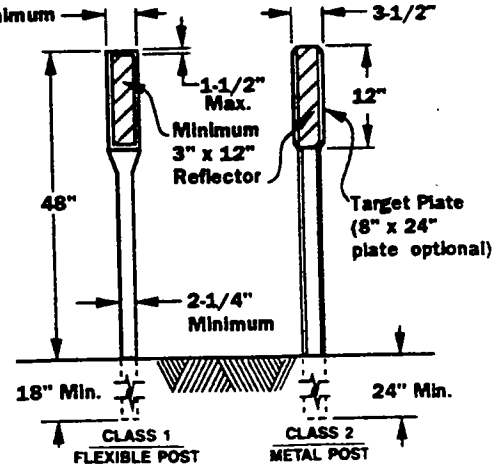
Figure 6-49
DELINEATORS, MEDIAN BARRIER DELINEATION AND CHANNELIZERS



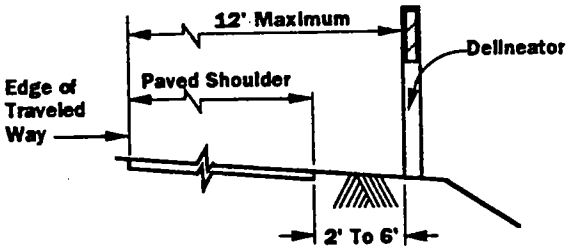
CONCRETE BARRIER DELINEATOR (FLEXIBLE POST)



GUARDRAIL DELINEATOR (FLEXIBLE POST)



TYPICAL DELINEATOR



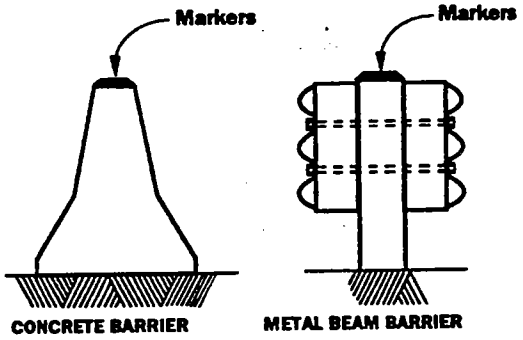
TYPICAL DELINEATOR PLACEMENT

TYPE	REFLECTOR COLOR	
	FRONT	BACK
E	WHITE	WHITE
F	WHITE	NONE
G	YELLOW	NONE
I	YELLOW	YELLOW
J	RED	NONE

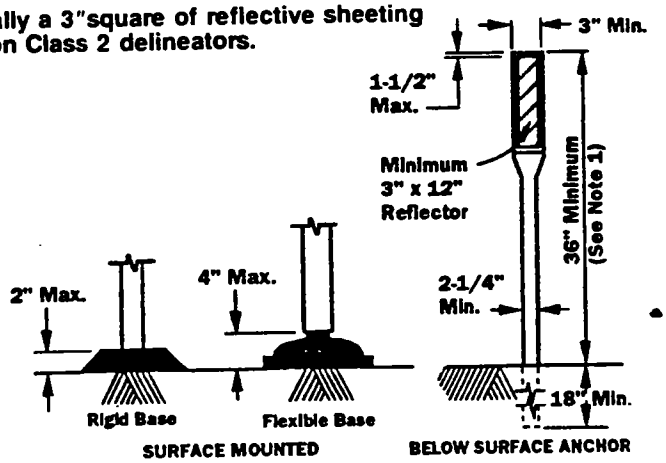
DELINEATOR REFLECTORIZATION

DELINEATOR NOTES:

1. Class 1 (Flexible Post) Delineators are intended to be standard on State highways, except for certain locations, e.g.. snow or protected areas behind guardrail, etc. The color of flexible posts is white.
2. Class 1 (Flexible Post) Delineators used in a construction or maintenance zone shall be orange with white reflectors. However, if the delineators are to remain in place as a permanent roadway feature after the construction or maintenance period, the post shall be white with the appropriate color of reflector as specified in Section 6-04.3.
3. The type of reflector and class of post is designated as E-1, F-2, etc.
4. The reflector used on the back of a delineator is generally a 3"square of reflective sheeting on Class 1 delineators or one standard reflex reflector on Class 2 delineators.



MEDIAN BARRIER DELINEATION



CHANNELIZERS

MEDIAN BARRIER MARKERS NOTE:

1. The spacing of Median Barrier Markers should correspond with the raised pavement markers on edgeline.

CHANNELIZER NOTES:

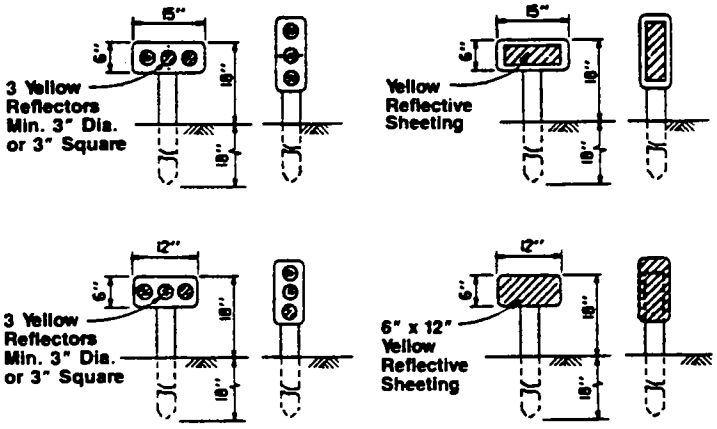
1. A minimum post height of 28" may be used at locations where speeds are 40 MPH or less.
2. Channelizer Posts used in a construction or maintenance zone shall be orange with white reflectors. However if the channelizers are to remain in place as a permanent roadway feature after the construction or maintenance period, the post shall be white and the color of the reflector shall conform to that of the pavement markings which is supplements.

NOT TO SCALE

Figure 6-54
TYPICAL OBJECT MARKERS
(Type K, Q and L)

NOT TO SCALE

TYPE K

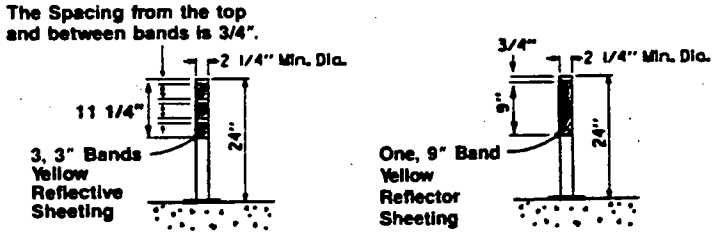


POLICY

Type K Markers are used:

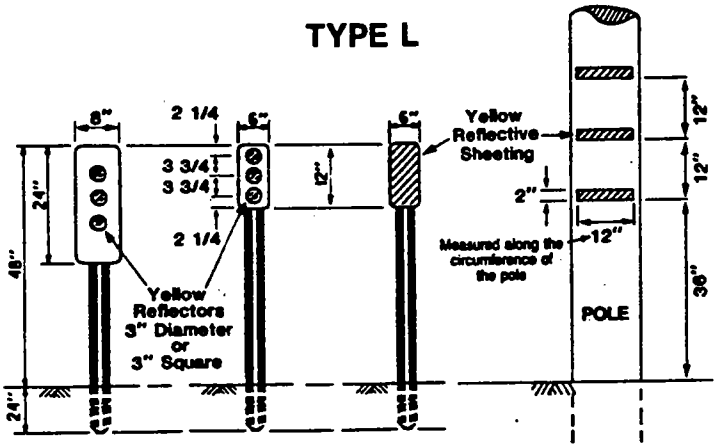
- In the far nose of median island opening.
- Facing approaching traffic at the noses of islands for ming Right-Turn lanes.
- In the nose of the island where traffic may proceed to either side.
- In the nose of exit ramps where there are curbs in the neutral area.

TYPE Q



- Type Q Markers are used to mark objects within the roadway such as curb noses, in areas where width is restricted and visibility is obscured in all directions.

TYPE L

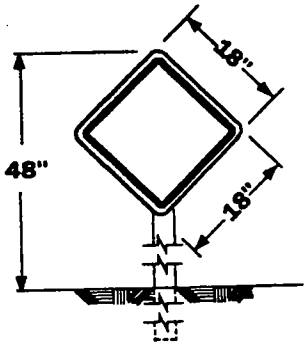


- Type L Markers are used to mark objects adjacent to the roadbed (outside of the paved shoulder) and within 12 feet of the traveled way.
- Type L Pole Markers are used to mark utility poles adjacent to the roadbed (outside of the paved shoulder). See Section 6-05.3.

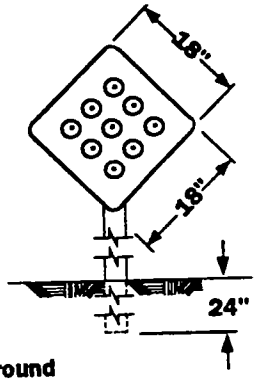
Figure 6-55
TYPICAL OBJECT MARKERS
(Type N, P and R)

NOT TO SCALE

TYPE N-1, 2 & 3



TYPE N-4 & 5

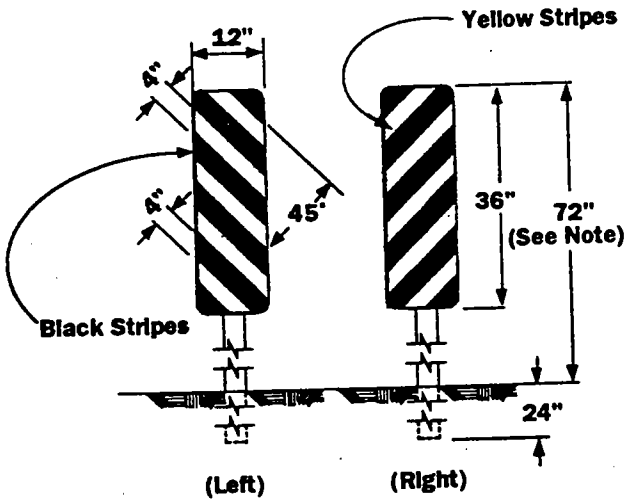


1. Yellow Reflective Background
2. Red Reflective Background
3. Orange Reflective Background
4. Yellow Background with 9'-3" Yellow Reflectors
5. Red Background with 9'-3" Red Reflectors

POLICY

- Yellow Type N Markers are used below and on the same post with the W56 or W57 Arrow signs to warn of an abrupt turn. Orange Type N Markers are used in construction zones.
- Red Type N Markers are normally mounted below and on the same post with the W31 END sign to mark the end of a street or highway.

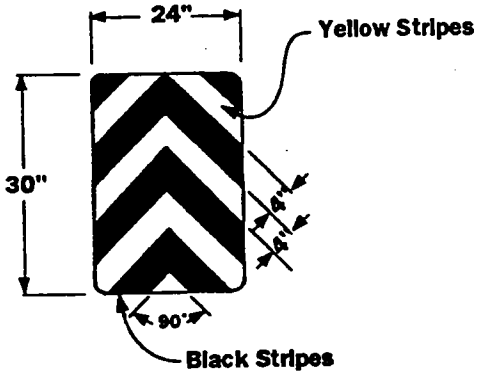
TYPE P



- Type P Markers are used to mark objects in a paved area, within 8 feet of the traveled way, where traffic may pass on only one side of a fixed object.

NOTE:
When mounting on the front of a crash cushion, this height may be less.

TYPE R



- Type R Markers are used to mark objects within the roadbed where traffic may proceed on either side. It is mounted on the front of a crash cushion or guardrail protecting the fixed object.

NOTE:
The bottom of the marker is normally mounted one foot above pavement.

SAMPLE ROAD DRAINAGE LETTER FOR STREET TERMINUS

Month 00, 1994

RECORDING REQUESTED BY AND MAIL ORIGINAL TO:

Mr. Thomas A. Tidemanson
Director
L.A. County Department of Public Works
P. O. Box 1460
Alhambra, California 91802-1460

Attention: Road/Sewer and Water Section
Land Development Division

Dear Mr. Tidemanson:

ACCEPTANCE OF SURFACE WATER
FROM TRACT/PARCEL_____

We hereby certify that I/we the owner(s) of the property shown hereon which is adjacent to the ___(Give location that include street Name)_____ as shown on the attached sketch.

I/We do hereby, and for my/our heirs/executors/administrators/successors/and assigns, jointly and severally agree to accept the drainage water discharged from ___(Give Street Name.)_____ to be offered for dedication in Tract/Parcel No. _____. I/We, and for my/our heirs/executors/administrators/successors and assigns, jointly and severally consent to the necessary grading thereto, understanding that this may necessitate the construction and maintenance of a small drainage ditch, and also consent to dispose of the water in an acceptable manner. This Acceptance shall terminate and be of no further force or effect whenever this street is extended by dedication beyond its current terminus on a recorded subdivision map or a recorded deed.

I/We do further, and for my/our heirs/executors/administrators/successors/and assigns, jointly and severally agree to indemnify, defend and save harmless the County of Los Angeles, its agents, officers and employees from and against any and all liability, expense including defense costs and legal fees and claims for any damages what so ever, including but not limited to bodily injury, death, personal injury, or property damage arising from said drainage/facility(s). I/We do further permit agents, officers and employees of the County of Los Angeles to enter upon the premises to do such maintenance work as may be required at any time prior to the termination as herein above provided.

Very truly yours,

_____

NOTE: Letter requires to be notarized

A sketch of the offside area adjacent the proposed development that will receive water flows from the development must be attached to this letter.

SAMPLE ROAD CONSTRUCTION LETTER

Month 00, 1994

Mr. Thomas A. Tidemanson
Director
L. A. County Department of Public Works
P. O. Box 1460
Alhambra, California 91802-1460

Attention: Road/Sewer and Water Section
Land Development Division

Dear Mr. Tidemanson:

PERMISSION TO ENTER FOR ROAD CONSTRUCTION

OFF-SITE OF TRACT/PARCEL _____

I/We am/are the owner(s) of the property located to the ____(Give description of the off-site property in relation to the New Subdivision.)____ of Tract/Parcel _____ and hereby give my/our permission to ___ (Give legal Name of the Developer.)___ the subdivider of Tract to enter onto my/our property to construct a ___(Describe Construction to be done off-site.)____as shown on the street plan for Tract/Parcel _____.

I/We understand that all of the construction upon my/our property will be done by the subdivider at no expense to me/us. I/We further understand that the subdivider shall be responsible for any damage to my/our property and that the work will be inspected by the Los Angeles County Department of Public Works for conformance will the County approved plans and specifications.

I/We do further, and for my/our heirs/executors/administrators/successors/and assigns, jointly and severally agree to indemnify, defend and save harmless the County of Los Angeles, its agents, officers and employees from and against any and all liability, expense including defense costs and legal fees and claims for any damages what so ever, including but not limited to bodily injury, death, personal injury, or property damage arising from said construction. I/We do further permit agents, officers and employees of the County of Los Angeles to enter upon the premises to do such maintenance work as may be required at any time prior to the termination as herein above provided.

Very truly yours,

_____

_____

Note: For major off-site construction, letter should be notarized and recorded by the County Recorder.

Month 00, 1988

HARDSHIP LETTERS

The subdivider shall make a concerted effort to obtain any necessary letters connected with normal design. If he is frustrated in his efforts by conditions beyond his control, he may submit a "hardship letter".

Basically, the "hardship letter" describes the problem and proposes a workable alternative solution.

The following principles will be a guide in determining approval of the requested alternate:

1. The decision will be made based only on the information presented in the letter.

2. Factual statements should be used wherever possible to support and justify the request.

3. The letter should clearly describe the effort made to comply with the normal requirements. Vague implications such as "the subdivider has been unable to obtain a drainage letter" need supporting evidence to show that a genuine effort has been made.

4. The following minimum information is necessary as evidence:

   a. Name, address, and telephone number of the person contacted.
   b. Reason that this person is believed to be the proper one to contact.
   c. Information concerning each contact or attempted contact:
      (1) Date
      (2) Time
      (3) Place
      (4) Method (phone, personal, letter, etc.)
      (5) Reaction of contactee

5. The letter must be signed by the subdivider or a responsible officer of the subdividing company.

6. All hardship letters must be approved by the Section Head.

HRDSP/7-10/21/88

SAMPLE AGREEMENT FOR TV CABLE INSTALLATION

Month 00, 1988

Mr. T. A. Tidemanson
Director
L. A. County Department of Public Works
P.O. Box 1460
Alhambra, CA 91802-1460

ATTENTION: Land Development Division, R/W/S Section
Tract Number 00000

Dear Mr. Tidemanson:

I/We hereby certify that I/we am/are the owner(s) of the lands included within the subdivision shown as Tract No. 00000, and that I/we, and for our heirs, executors, administrators, successors and assigns, jointly and severally agree to: (1) permit the installation of TV cable in the common utility trenches of said tract by _____, the L. A. County franchised cable TV operator (and/or by_____, applicant under consideration by County for a cable TV franchise within said tract); and (2) prohibit the installation of TV cable in the common utility trenches of said tract by any party or parties not franchised nor under consideration for a franchise by County to operate a cable TV system in said tract.

The undersigned_____ (and/or _____) hereby certify that I/we am/are the cable TV operator franchised by County (and/or the applicant under consideration by County for a cable TV franchise) to provide cable service within said tract , and that I/we, and for our heirs, executors, administrators, successors and assigns, jointly and severally agree to install or have installed the TV cable(s) in the common utility trenches of said tract.

(All signatures must be notarized)

SAMPLE UTILITY LETTER

Month 00, 1994

Mr. Thomas A. Tidemanson
Director
L. A. County Department of Public Works
P. O. Box 1460
Alhambra, California 91802-1460

Attention: Road/Sewer and Water Section
Land Development Division

Dear Mr. Tidemanson:

SUBJECT: (Describe Utility) by (Utility Company Name)

TRACT/PARCEL _____

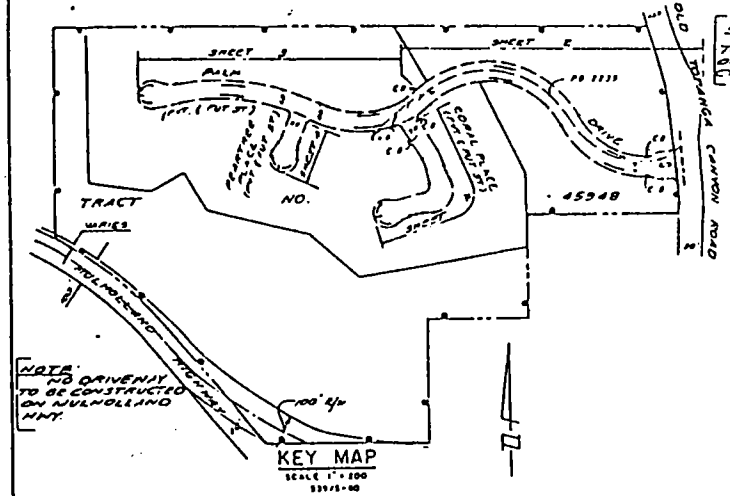
We hereby agree that those portions of the subject facility and appurtenances which fall within right of way to be dedicated in the subject tract (and might interfere with the construction of street) will be removed or relocated, free of cost to the County (or City), and to the satisfaction of the Los Angeles County Department of Public Works. Obligation to remove or relocate will terminate with acceptance of street improvements by the Governing Body.

In the event removal or relocation of its facilities becomes necessary, we further agree to notify the Department of Public Works by calling (818) 458-3129 to arrange for inspection at least twenty-four hours before starting the work for removal or relocation of such lines.

Very truly yours,

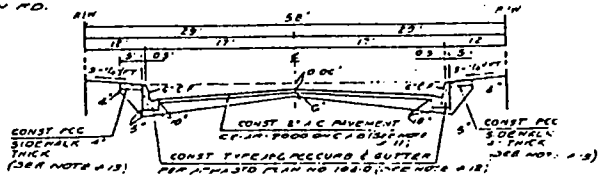
(Authorized Signatures of Utility Company)
(Utility Co. Name)
(Address)

(Please submit original only)

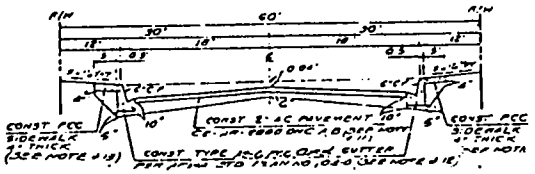


KEY MAP

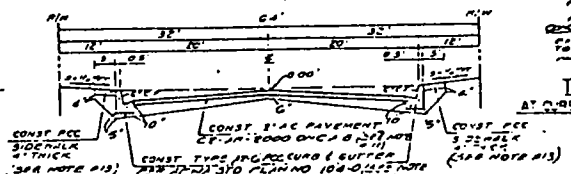
NOTE: NO DRIVEWAY TO BE CONSTRUCTED ON OLD TOPANGA CYN RD.



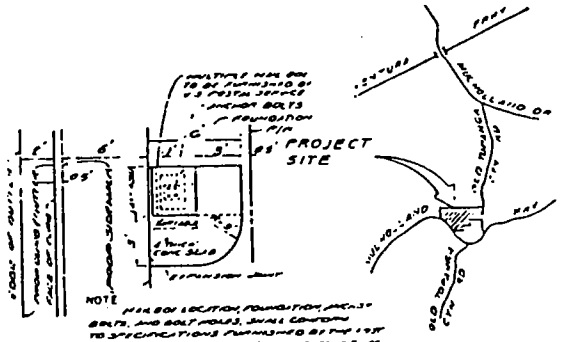
TYPICAL SECTION 58' R/W
NO SCALE
CORAL PLACE, PEARTREE PLACE, PALM DRIVE



TYPICAL SECTION 60' R/W
NO SCALE
PALM DRIVE



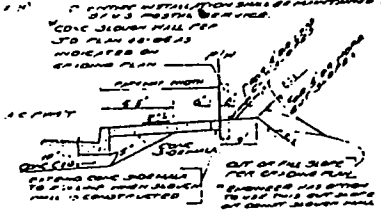
TYPICAL SECTION 64' R/W
NO SCALE
PALM DRIVE



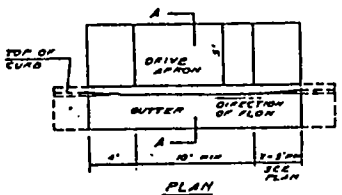
MULTIPLE MAILBOX DETAIL
NO SCALE

VICINITY MAP
NO SCALE

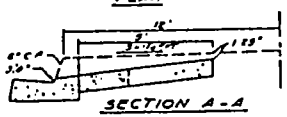
MULTIPLE MAILBOX INSTALLATION



TYPICAL PARKWAY SECTION
AT CURB RETURN & AT FULL WIDTH SIDEWALK
NO SCALE

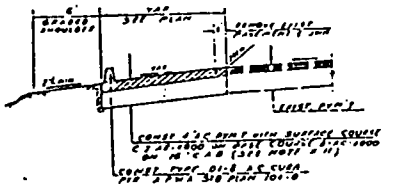


PLAN

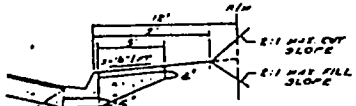


SECTION A-A

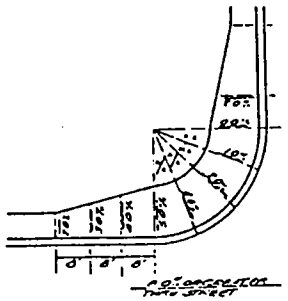
DRIVEWAY MODIFICATION DETAIL
FOR WHEELCHAIR RAMPS
NO SCALE



OLD TOPANGA CANYON RD WIDENING
NO SCALE



TYPICAL SECTION FOR
PARKWAY GRADING
NO SCALE



STANDARD NOTES

1. ALL WORK SHALL CONFORM TO THE "STANDARD PLANS AND SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (TWO BOOKS) SUPPLEMENTED WITH THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS ROAD AND FLOOD CONTROL STANDARD PLANS.

2. A PERMIT SHALL BE OBTAINED AND FEES PAID FOR CONSTRUCTION INSPECTION TO THE DEPARTMENT OF PUBLIC WORKS AT THE PERMIT COUNTER, 900 SOUTH FREMONT AVENUE, 8th FLOOR, ALHAMBRA, CA AT LEAST 72 HOURS PRIOR TO STARTING WORK UNDER THIS CONTRACT.

3. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE PROSECUTED TO COMPLETION WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC. FAILURE TO COMPLY WITH THIS REQUIREMENT IS A VIOLATION OF TITLE 16 OF THE COUNTY CODE, HIGHWAY PERMIT CODE.

~~4. PROVIDE A STREET LIGHTING SYSTEM APPROVED BY THE LIGHTING SECTION, TRAFFIC & LIGHTING DIVISION, AND PROVIDE FOR THE TEMPORARY OPERATION OF THE STREET LIGHTING SYSTEM.~~

~~5. PLANT STREET TREES PER LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS "SPECIAL PROVISIONS FOR TREE PLANTING SUBDIVISION" STANDARD PLAN 32.02 AND STANDARD SKETCHES LS-001 THRU LS-005 AS REQUIRED AND PRIOR TO OCCUPANCY OF BUILDINGS. SEE TREE LIST HEREON.~~

6. REPAIR ANY BROKEN OR DAMAGED CURB, GUTTER, SIDEWALK AND PAVEMENT ON STREETS WITHIN OR ABUTTING THE SUBDIVISION.

7. ALL CONSTRUCTION JOINTS FOR P.C.C. CURBS, GUTTERS, DRIVEWAYS AND SIDEWALKS SHALL BE IN ACCORDANCE WITH APWA STANDARD PLAN NO. 103-0.

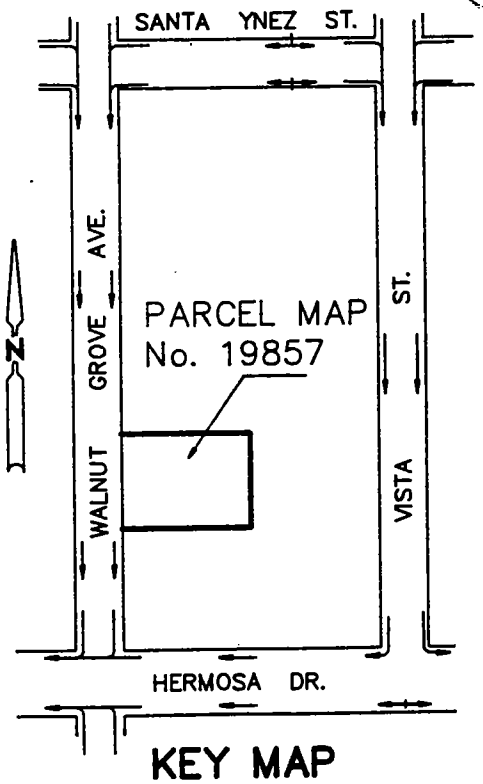
PREPARED BY:
GILBERT ENGINERRING CO.
3820 E. COLORADO BL., #109
PASADENA, CA 91107 (818) 449-4537

Ed Eckert
ED ECKERT - R.C.E. 34587

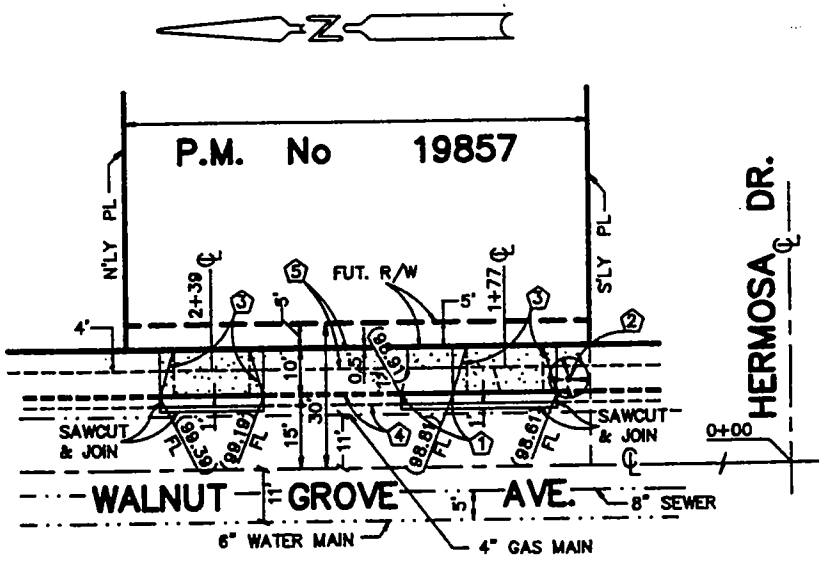
REGISTERED PROFESSIONAL ENGINEER
ED J. ECKERT
No. 34587
Exp. 9/30/91
CIVIL
STATE OF CALIFORNIA

CONSTRUCTION NOTES:

1. CLOSE EXIST. DRIVE W/STD. CURB & GUTTER, SEE DRIVEWAY CLOSURE TYPICAL SECTION ON SHEET 2
2. EXIST. 12" TREE TO BE REMOVED
3. CONST. DRIVE APPROACH PER APWA STD. 101-0, TYPE A; W=16'; X=4' FOR 8" C.F. SEE TYPICAL DRIVEWAY SECTION ON SHEET 2
4. EXIST. CURB & 24" GUTTER TO REMAIN, REPAIR OR REPLACE ANY DAMAGED CURB & GUTTER
5. EXIST. 4' WIDE CONC. SIDEWALK TO REMAIN, REPAIR OR REPLACE ANY DAMAGED SIDEWALK



KEY MAP
SCALE 1" = 200'



THOMAS GUIDE NO. 37 F2

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS			LAND DEVELOPMENT DIVISION		
REF.	DRAWN BY E.E.	CHECKED BY T.D.	RECOMMENDED BY T. D.	APPROVED Suzy Stiller	TR/PM NO. 19857
SCALE 1" = 40'	DATE APRIL, 91	DATE 6-4-91	DATE 6-4-91	DATE 6/5/91	SHT 1 OF 2 SHTS

KEY MAPS

Key maps shall be drawn based on the following specifications:

1. Scale 1" = 200' for the area within the tract. The surrounding area may be shown also to 1" = 200', or an additional location may be drawn to a scale of 1" = 600' or 1" = 1000' (these are the scales used on our index maps).

2. Show North arrow.

3. Existing neighboring streets plotted to scale (no dimension breaks). Enough surrounding streets should be shown to give a clear picture of the relationship of the tract to the neighborhood. Normally, there would be at least one street shown in each direction.

4. Tie to Master Plan Highway if feasible.

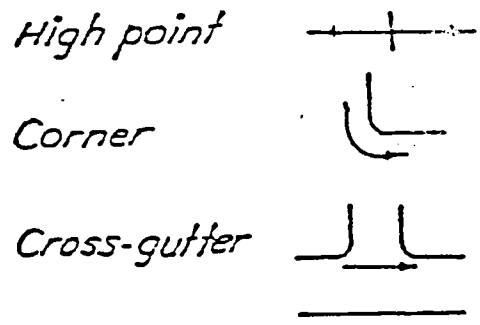
5. Recorded streets and streets within the tract to be shown solid. Use dashed lines if future or proposed extensions are shown, and dashed lines for private streets.

6. Outline the tract boundary by showing a blue border.

7. Prominent existing and proposed neighborhood features should be shown, such as railroads, freeways, schools.

8. Show any City or County boundaries within the area show by key map.

9. Show the drainage pattern by means of arrows. There should be enough arrows to show high points, where water turns corners, where it crosses intersections, and where it enters or leaves drainage structures. Natural drainage courses remaining after tract construction should be shown both within and near the tract.



10. Indicate an underground drain by a single dashed line. Label it with a Department of Public Works P.D. number. Open drains should be indicated by solid right of way lines and labels PD or Flood Control District as appropriate.

11. Show plan sheet numbers on key map.

12. Show right of way widths on streets within the construction area.

A flow chart, in addition to the key map, will normally be required only when the quantity of water approaches street capacity. In these cases, the flow chart should be on a print of the grading plan.

ROAD
STANDARD NOTES

The following general notes are to be included on the title sheet of all Road Plans:

1. A permit shall be obtained and fees paid for construction inspection to the Department of Public Works at the Permit Counter, 900 South Fremont Avenue, 8th Floor, Alhambra at least 72 hours prior to starting work under this contract.

2. When work is within a contract city, the contractor must contact the Director of Public Works of that City to determine the location to pay the inspection fees.

3. The Contractor shall contact the district office listed on the permit application to arrange for an acceptable construction start date.

4. A permit must be obtained from the Los Angeles County Department of Public Works, Construction Division at (818) 458-3129 for all storm drain connections.

5. For all work within Caltrans R/W or incorporated cities, subject to inspection and approval of Caltrans or cities, obtain a permit from Caltrans or other cities 30 days prior to construction within their right-of-way.

6. All work shall conform to the "Standard Plans and Specifications for Public Works Construction" (two books) supplemented with the Los Angeles County Department of Public Works Standard Plans 1992 edition.

7. Work in public streets, once begun, shall be prosecuted to completion without delay so as to provide minimum inconvenience to adjacent property owners and to the traveling public. Failure to comply with this requirement is a violation of Title 16 of the County Code, Highway Permit Code.

8. The contractor shall take all necessary and proper precautions to protect adjacent properties from all damage that may occur from storm water runoff and/or deposition of debris resulting from any and all work in connection with subdivision construction.

9. There shall be no above-ground obstruction in any portion of the sidewalk except where the width, exclusive of top of curb, is 50 inches or greater.

10. Mail receptacles will be neighborhood box units installed per post office regulations as shown hereon.

11. Construct mailbox post per detail as shown hereon.

12. Construct walk returns and transitions per DPW Standard Plan 1130-0.

13. Where sidewalks are adjacent to curb, construct residential driveways per APWA Standard Plan 110-0 unless otherwise shown. Prior to forming curb and gutter, the contractor shall confer with the County Inspector to secure approval for all driveway locations and widths.

14. Construct street name signs per locations as shown on plan. Contact Operational Services Division at (818) 458-1700 for standard plans and specifications. Street name signs shall be posted prior to occupancy of buildings.

15. Provide a street lighting system approved by the Street Lighting Section, Traffic and Lighting Division; and provide for the temporary operations of the street lighting system.

16. Thickness of base materials will be determined by the Department of Public Works CBR soil test and established by the Materials Laboratory. Subdivider's engineer shall request test by the

Department of Public Works Materials Laboratory at (818) 458-3136, after streets have been rough graded. Plans must be revised to show actual base to be placed.

17. Processed Miscellaneous Base may be used under curb and gutter in lieu of Crushed Aggregate Base.

18. Processed Miscellaneous Base or Select Material with expansion of 3% or less by the Department of Public Works CBR soil test may be used in lieu of Crushed Aggregate Base under walks.

19. Driveways shall not encroach in the four (4) feet gutter portion of local depressions (to be used whenever plans include four (4) feet gutter local depressions).

20. Plant Street Trees per Los Angeles County Department of Public Works "Special Provisions for Tree Planting - Subdivisions," DPW Standard 5000-0 through 5004-0 as required and prior to occupancy of Buildings. See Street Tree List hereon.

21. All utility lines shall be underground per Section 21.24.400 of Title 21 of the Los Angeles County Code. Contact Construction Division at (818) 458-3141 for new location of any above ground utility structure in parkway.

22. Where grades exceed 6%, place parkway protectors on downstream side of all driveways and at all lot lines, unless driveways are constructed within 50 feet of lot lines. See details hereon.

23. No driveways should be located within 25 feet upstream of catch basin when grade is greater than 6%.

24. Rip Rap Notes:

    a. Rocks for grouted rip rap shall be good quality broken concrete and/or river run rock. The smallest dimension shall not be less than six (6) inches nor greater than 18 inches unless otherwise specified. The largest dimension shall not exceed four (4) times the smallest dimension.

    b. There shall be a grout bed at least two (2) inches beneath the first layer of rock. All the voids between the rocks shall be filled with grout. Maximum spacing between rocks shall be two (2) inches.

    c. Surface rocks shall be embedded from 1/2 to 2/3 of their maximum dimension.

25. Pipe bedding shall be:

    In accordance with Los Angeles County Engineer Case Ad Bedding per DPW Standard Plan 3092-0 unless otherwise noted. The bedding material placed from the bottom of the pipe to 1 foot over the top of the pipe shall be sand, crushed aggregate, or native free-draining granular material and shall have a sand equivalent of 20 or greater.

    OR

    According to DPW Standard Plan 3080-0, Case 3, except bell and spigot pipe which shall be Case 2 bedding, unless otherwise shown. "W" values shall be as specified on DPW Standard Plan 3080-0 for Case 3 bedding, Notes (a), (b), and (c). If the "W" value at the tip of the pipe is exceeded, the bedding shall be modified, and/or pipe of additional strength shall be provided. The proposed modification shall be approved by the Department.

26. All construction joints for P.C.C. curbs, gutters, driveways and sidewalks shall be in accordance with APWA Standard Plan No. 112-0.

27. The latest revised standard plan or drawing shall be used unless otherwise specifically noted.

MOST COMMONLY USED ROAD CONSTRUCTION NOTES

The following construction notes are to be included on the applicable sheet of the Road Plans when applicable.

(Usage directions in brackets are not to be included with the notes)

A. Notes used on Typical Section

1. Construct 3" A.C. pavement, 1-1/2" minimum base course (B-AR-4000) and a 1" minimum finish course (C2-AR-2000) on crushed aggregate base [Add (See General Note 16) if no soil test].

2. Construct P.C.C. curb and gutter Type _____ per A.P.W.A. Standard Plan 120-0 (see General Note 17).

3. Construct P.C.C. sidewalk 4" thick (see General Note 18).

4. Construct P.C.C. longitudinal gutter, Type F, per APWA Standard Plan 122-0, on 6-inch crushed aggregate base [for alleys].

5. Construct 4" A.C. pavement C2-AR-4000 for surface course, B-AR-4000 for base course on crushed aggregate base [Add (see General Note 16) if no soil test].

B. Notes used on Plan View

1. Construct street improvements per typical section on Sheet 1.

2. Construct P.C.C. cross gutter, Per A.P.W.A. Standard Plan 122-0, on 6-inch Crushed Aggregate Base.

3. Construct P.C.C. cross gutter on 6" Crushed Aggregate Base, per DPW Standard Plan 1110-0.

4. Construct temporary turnaround. Temporary turnaround may be omitted and improvements extended to tract boundary if adjoining tract is under construction. [Second sentence may be placed in the Standard Notes on the title sheet].

5. Construct ____ lin. ft. of guard rail on wood posts per Caltrans Standard Plans A77A, A77B, and A77G (if required). (Add with Type N-5 markers per Caltrans Standard Plan A73B for use at end of street.)

6. Depress 4 lin. ft. of curb to 0 in. curb face, with one foot transition on each side for drainage purposes unless otherwise noted (when water is leaving street).

7. Remove existing temporary turnaround and reconstruct street improvements per typical section on Sheet 1.

8. Remove existing guard rail and stockpile for Department of Public Works. Inspector will notify Maintenance district office of available salvage material.

9. _____ ft. easement to the County of Los Angeles for storm drain (drainage) purposes.

10. Construct _____ lin. ft. of _____ R.C.P. _____D. See profile hereon (for road drains and for C.B. connector pipes if there is no private drain).

11. Construct local depression at catch basin per A.P.W.A. Standard Plan 313-0, Case E (for side opening) or Case G (for grating) H=____, H2=____.

12. Construct Los Angeles County Department of Public Works Standard Parkway Drain S= ____ per DPW Standard Plan 3056-0.

13. Construct curb drain per A.P.W.A. Standard Plan 150-0 (____ pipes).

14. Construct Los Angeles County Department of Public Works Standard R.C. Box Culvert W= ___, H=____, per DPW Standard Plan No. 3053-0.

15. Construct Driveway per A.P.W.A. Standard Plan 110-1 _____, W=____, X=____, (State whether residential/commercial, this note to be used only when there are special access or drainage situations).

16. Construct wheelchair ramp per A.P.W.A. 111-1, Case E.

17. Construct delineator reflectors Type F with flexible post per Caltrans Standard Plan A73C.

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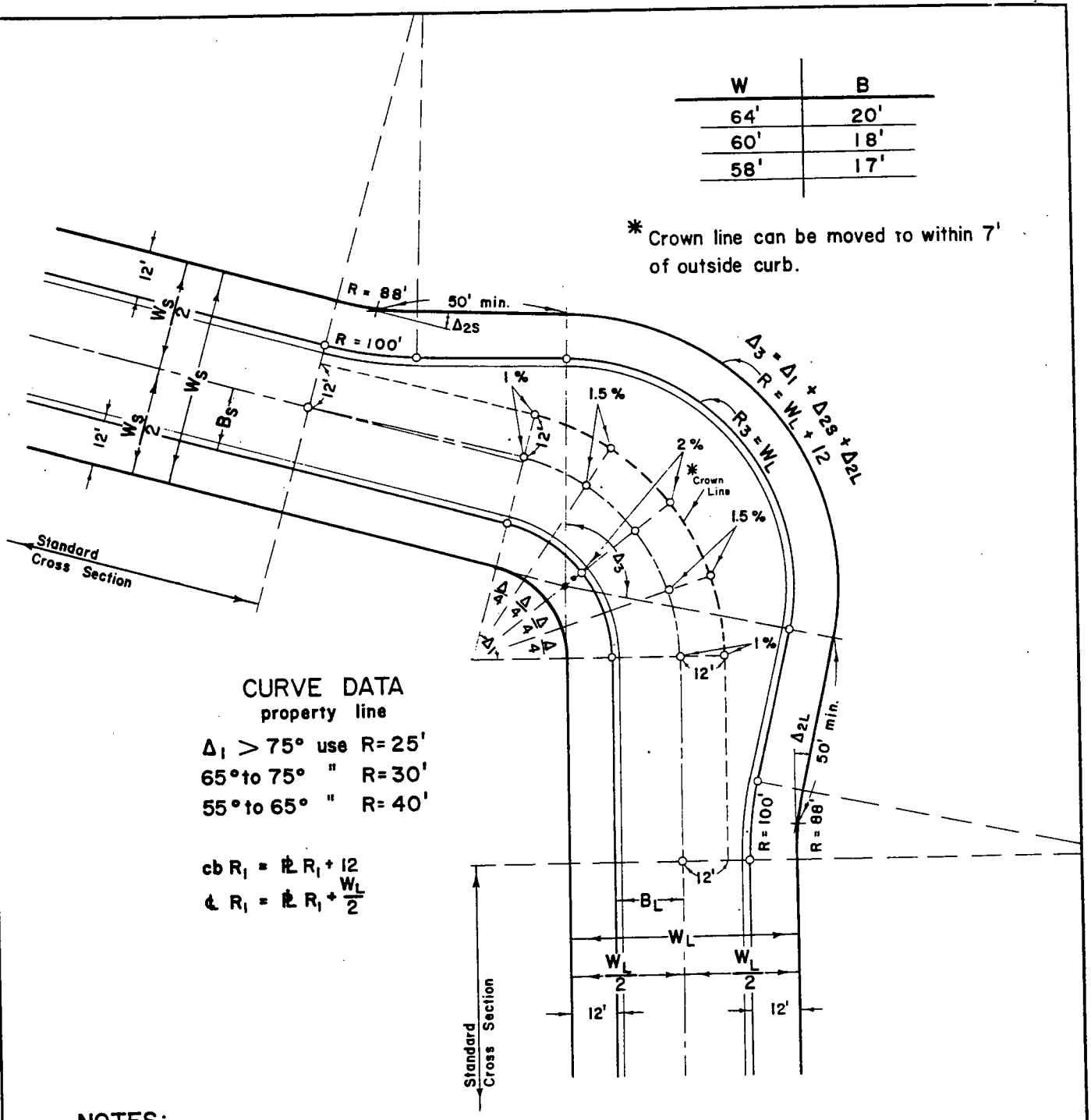
W	B
64'	20'
60'	18'
58'	17'

* Crown line can be moved to within 7' of outside curb.



NOTES:

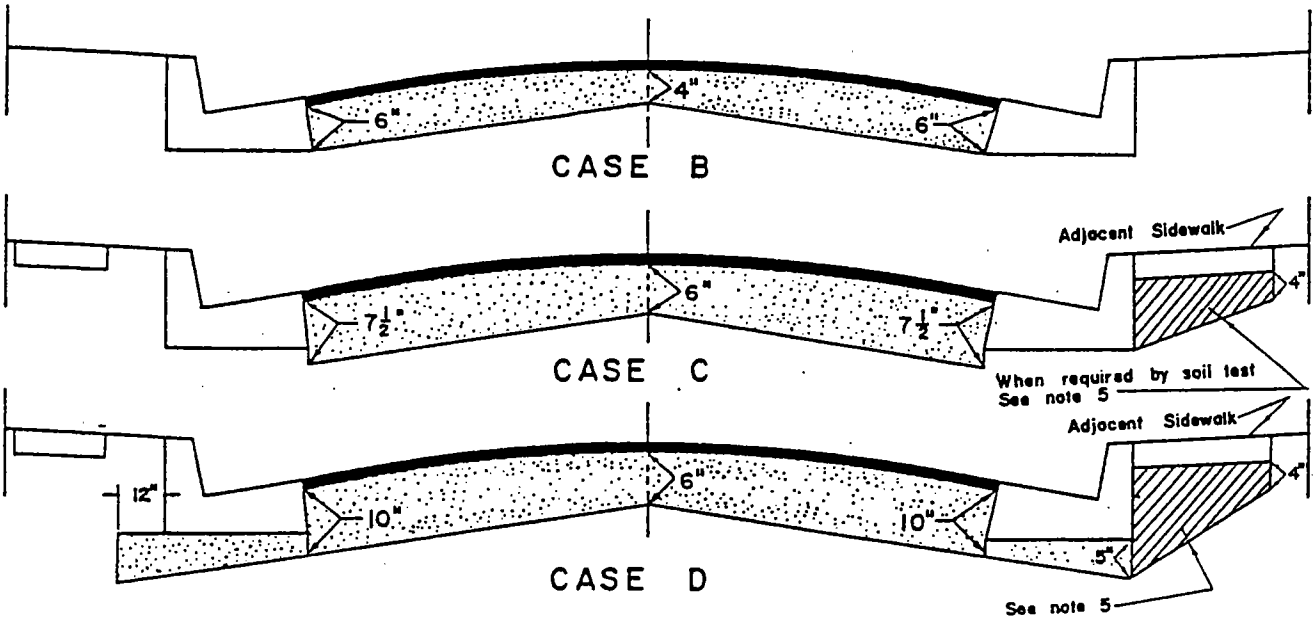
1. Subscripts "S" and "L" denote smaller and larger widths respectively.
2. Elevations are required where circled.
3. Transverse slopes shown above are typical for flat approach grades and can be increased to a maximum of 4% at center of curve for steep approach grades.
4. Limits of slope, crown line to outside gutter, maximum = 2.2% for 8" C.F. and 3.8% for 6" C.F.; minimum = 1%.

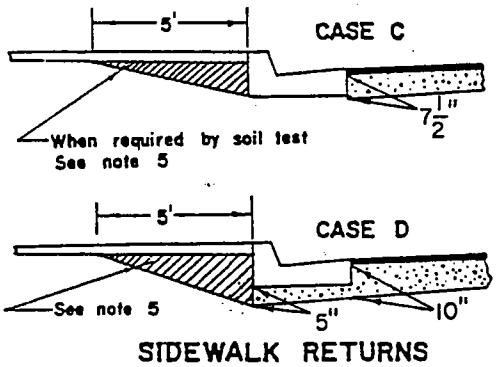
DRAWN BY: R.L.J., 11-66. CHECKED BY: J.S.S., 11-66.
REV. 12-78 REVISED NOTES NO. 3 & 4, DELETED NO. 5

SKETCH 5

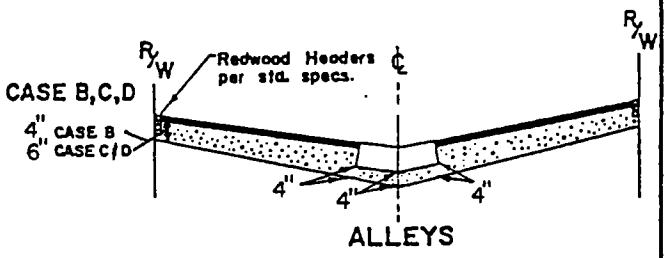
44-63

TRACT ROADWAY STRUCTURAL SECTION CLASSIFICATION





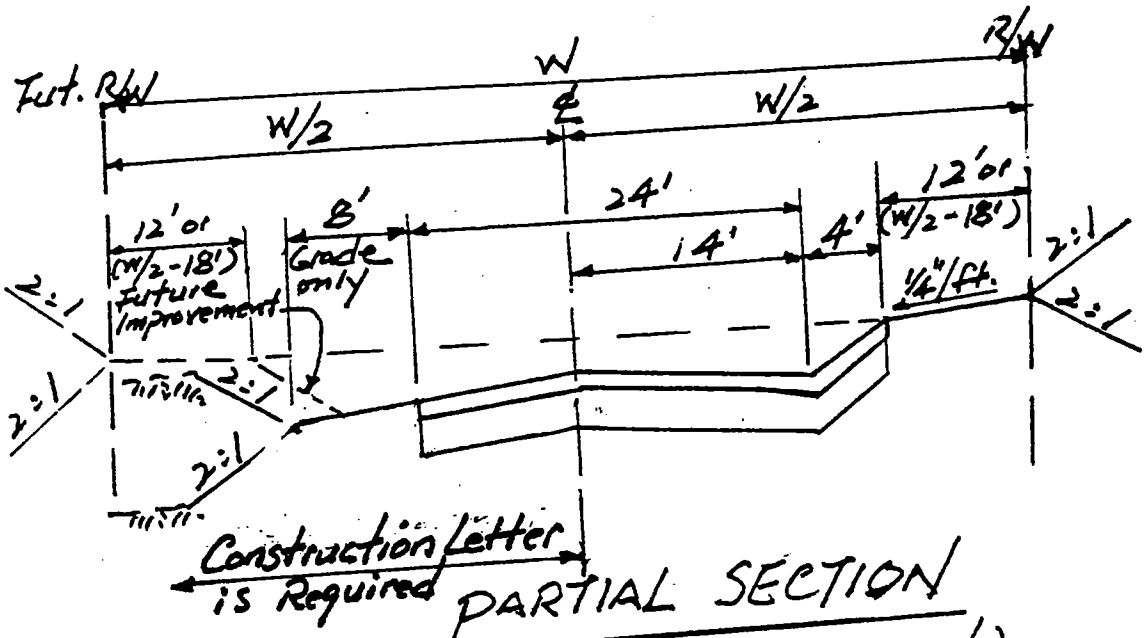
SIDEWALK RETURNS



ALLEYS

NOTES:

1. Asphalt Concrete surfacing shall be 3" minimum, consisting of a 1-1/2" minimum base course (B-AR-4000) and a 1" minimum finish course (C2-AR-2000).
2. Base material to be Crushed Aggregate Base.
3. Straight grade at bottom of base.
4. Where base is required under gutter, thickness shall be 4" minimum.
5. Crushed Aggregate Base or Select Subbase with expansion less than 3% by Department of Public Works CBR soil test.
6. Surfacing for alleys in commercial and industrial areas shall be 4" Asphalt Concrete (C2-AR-4000).

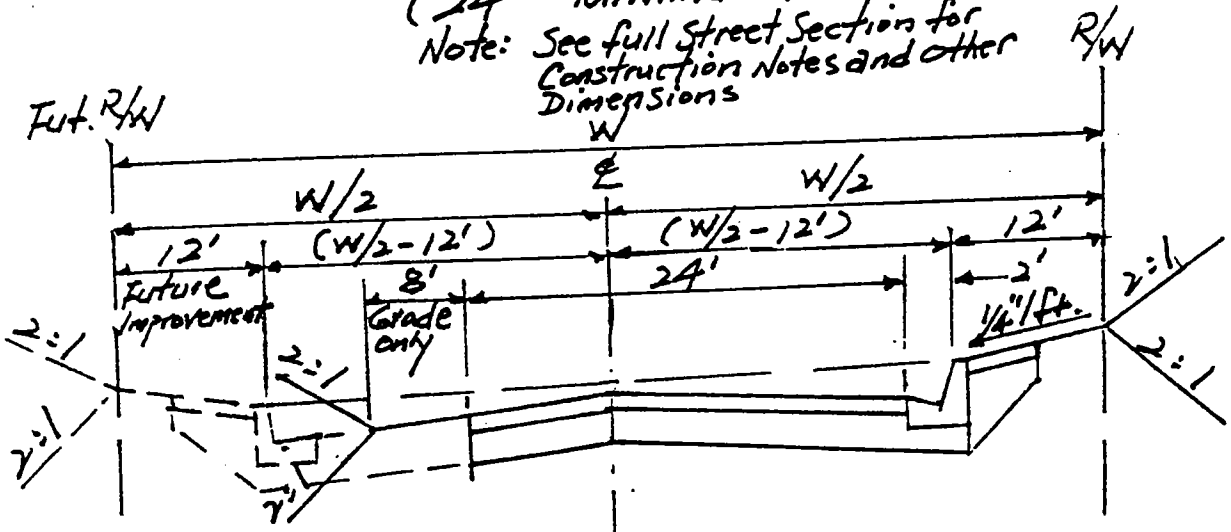


Construction Letter is Required

PARTIAL SECTION

(24ft. Minimum Pavement)

Note: See full Street Section for Construction Notes and other Dimensions



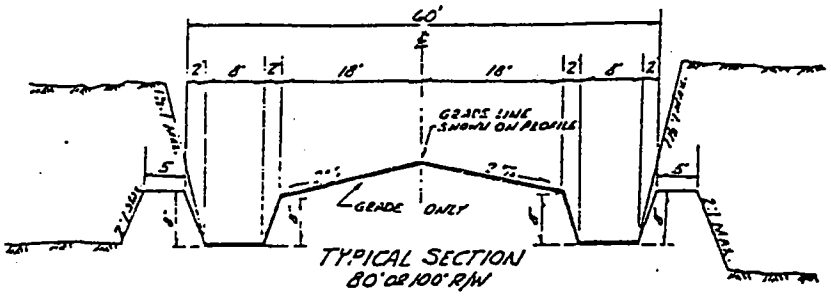
Construction Letter is Required

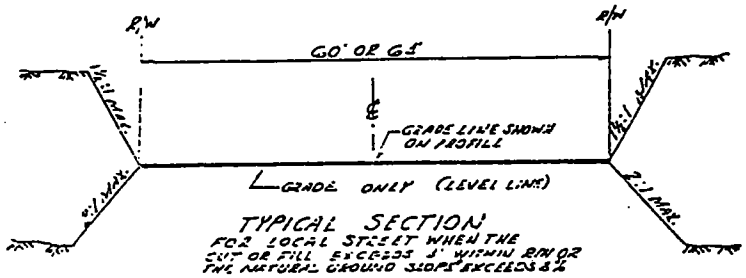
PARTIAL SECTION

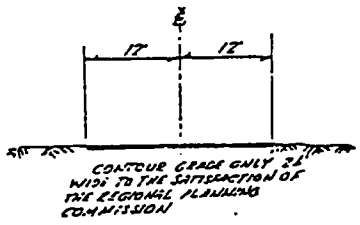
(24ft. Minimum Pavement)

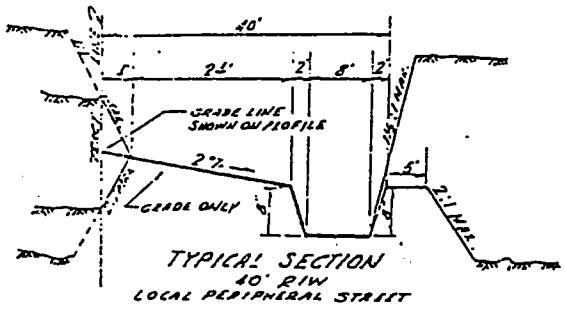
Note: See full Street Section for Construction Notes and other Dimensions

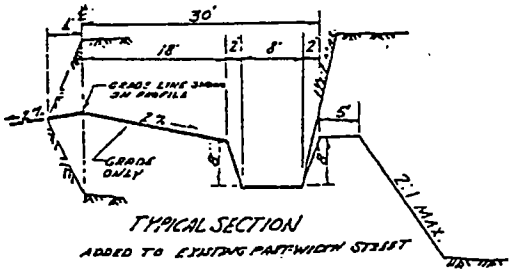
GUIDE FOR PREPARATION OF STREET PLANS.

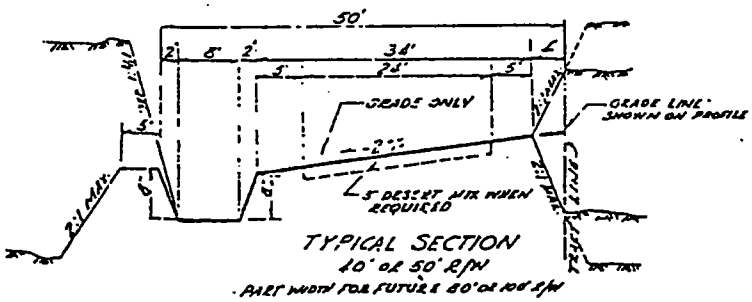




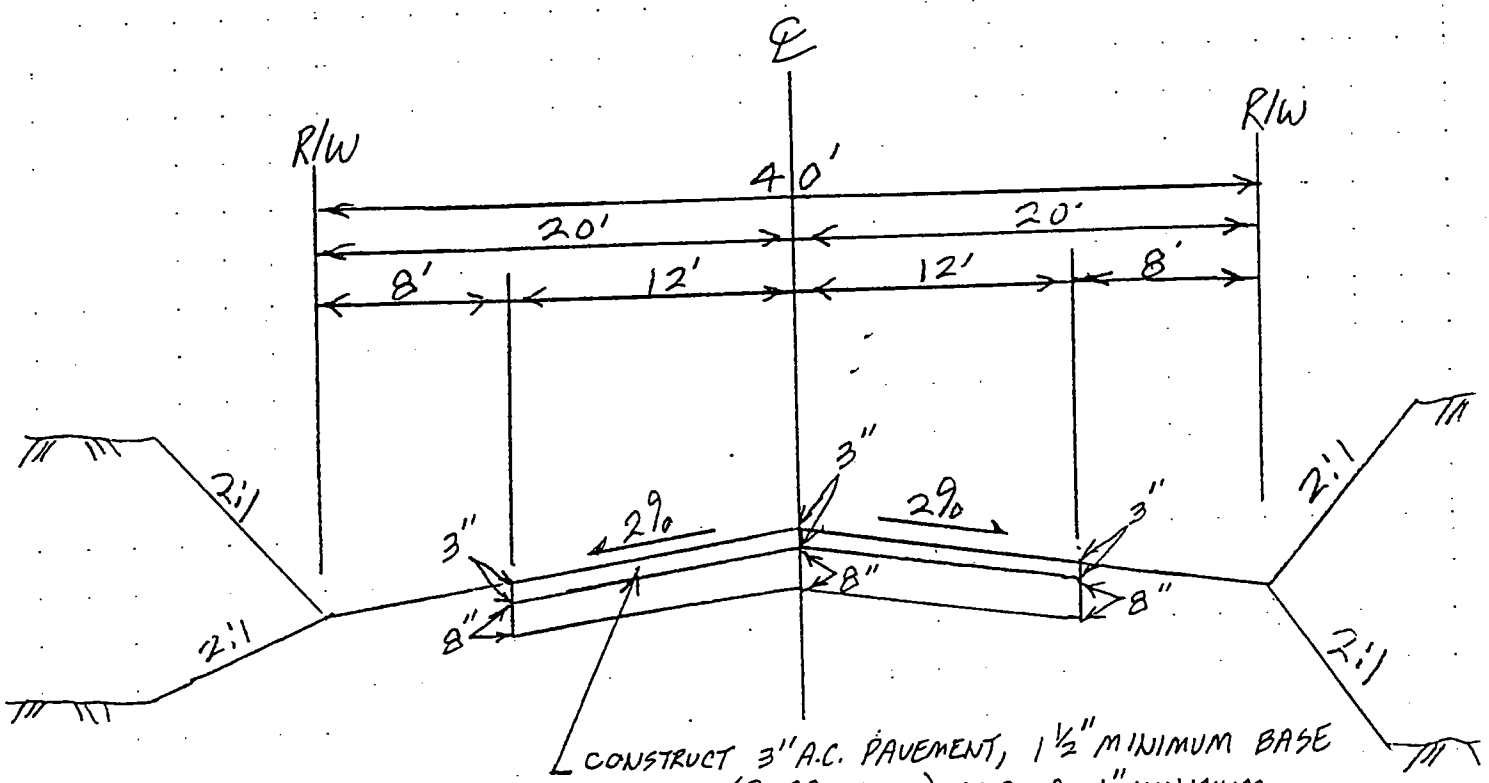






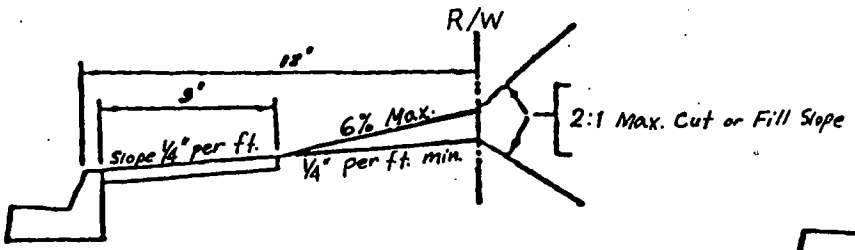


OFFSITE ACCESS ROAD

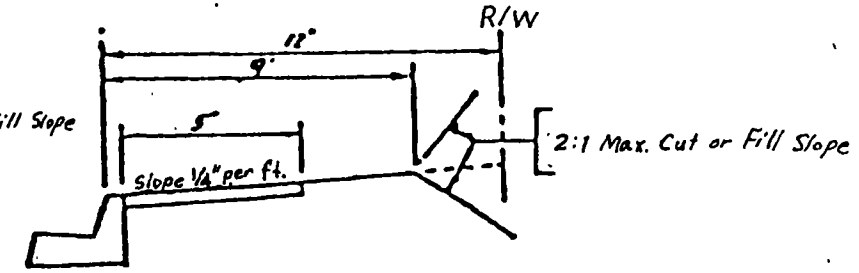


CONSTRUCT 3" A.C. PAVEMENT, 1½" MINIMUM BASE COURSE (B-AR-4000) AND A 1" MINIMUM FINISH COURSE (C2-AR-2000) ON CRUSHED AGGREGATE BASE (SEE NOTE 16)

Parkway Grading

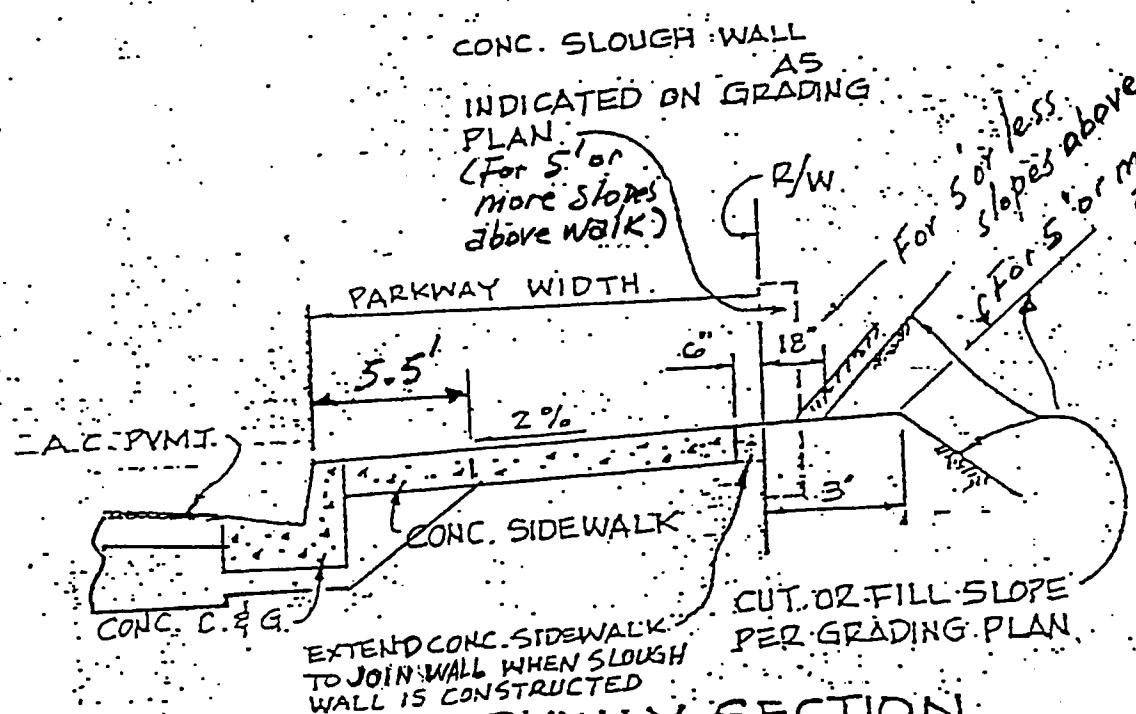


TYPICAL SECTION
FOR
PARKWAY GRADING
(WHERE WALK IS ADJACENT TO CURB)



TYPICAL SECTION
FOR
PARKWAY GRADING
(HILLSIDE MITIGATION)

87-78



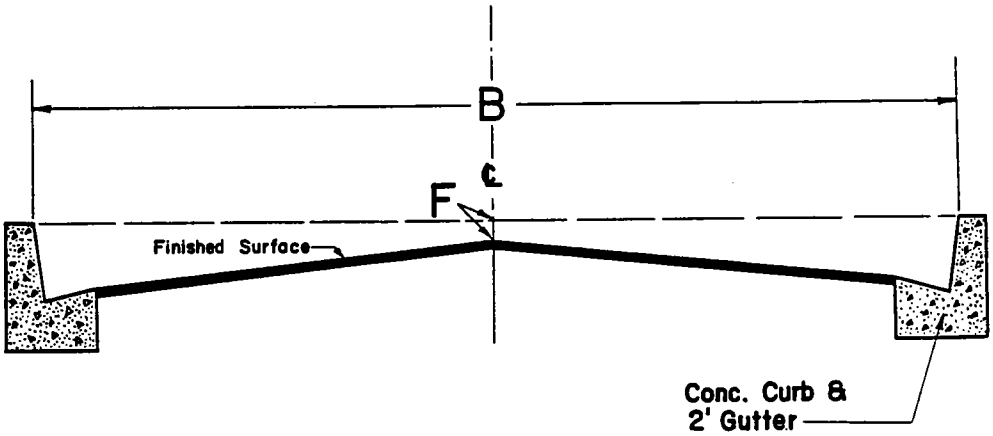
TYPICAL PARKWAY SECTION

NO SCALE

FOR: (1) PARKWAY GRADING AT WALK RETURN
(2) PARKWAY GRADING WHERE SIDEWALK IS ADJACENT TO THE STREET R/W.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS				DIVISION	
REF.	DRAWN BY	CHECKED BY	RECOMMENDED BY	APPROVED	DRAWING NUMBER
SCALE	DATE	DATE	DATE	DATE	

STANDARD DRAWING FORM



DIMENSIONS		
B	CURB FACE	F
40'	8"	2"
	6"	0"
36'	8"	2 1/2"
	6"	1/2"
34'	8"	2 3/4"
	6"	3/4"

DRAWN BY: V.C.K., 3-63. CHECKED BY: D.D.M., 3-63.
REV: 12-78 REVISED DIMENSIONS.

SKETCH 6

11-70

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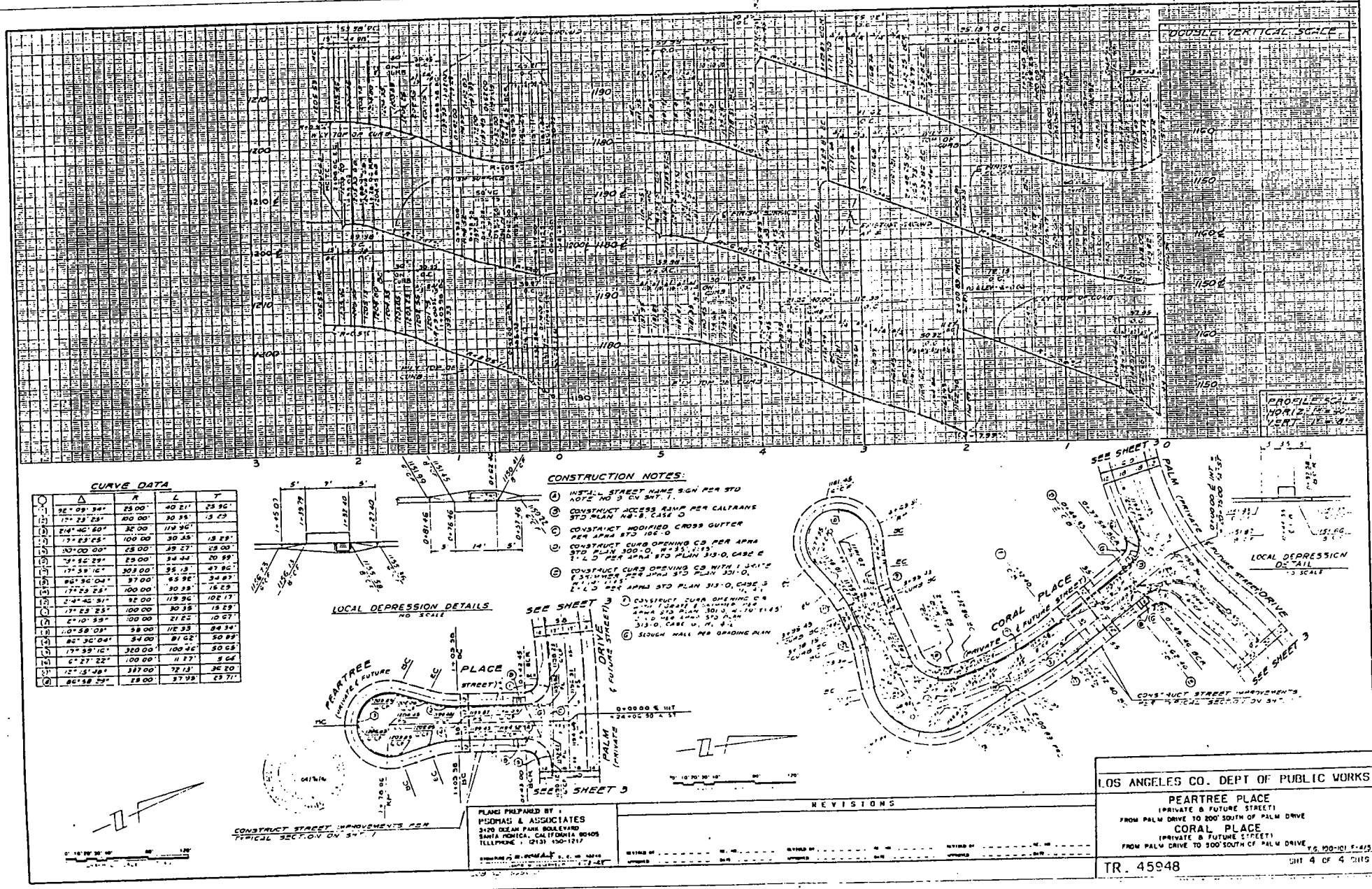


	Δ	R	L	T
①	92° 09' 34"	25.00'	40.21'	25.90'
②	17° 28' 28"	100.00'	30.35'	15.29'
③	214° 46' 50"	32.00'	119.96'	
④	17° 23' 28"	100.00'	30.35'	15.29'
⑤	30° 00' 00"	25.00'	39.27'	20.00'
⑥	91° 52' 29"	25.00'	34.44'	20.99'
⑦	17° 39' 16"	303.00'	93.18'	47.06'
⑧	96° 36' 04"	37.00'	62.38'	34.87'
⑨	17° 23' 28"	100.00'	30.35'	15.29'
⑩	214° 46' 51"	32.00'	119.96'	108.17'
⑪	17° 23' 28"	100.00'	30.35'	15.29'
⑫	6° 10' 59"	100.00'	21.22'	10.63'
⑬	110° 58' 09"	58.00'	112.33'	84.34'
⑭	80° 36' 04"	34.00'	81.22'	50.89'
⑮	17° 39' 16"	320.00'	100.46'	50.65'
⑯	6° 27' 22"	100.00'	11.27'	5.64'
⑰	15° 15' 48"	337.00'	72.13'	36.20'
⑱	86° 58' 39"	28.00'	37.98'	23.71'

41-72

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ROAD MAINTENANCE DIVISION
900 South Fremont Avenue
Ahambra, California 91803-1331

STREET TREE PLANTING REQUIREMENTS

SPECIAL PROVISIONS FOR TREE PLANTING - SUBDIVISIONS

A. WATER

Per Section 308-4.9.5 and Section 308-6, the Subdivider is required to water and maintain any and all trees planted for this subdivision for a period of 365 days and such work is to be considered as being included in this planting requirement.

The subdivider shall make arrangements to provide his own water and water transportation equipment. Trees shall be watered within eight (8) hours from the time of planting.

For the first watering, each tree shall be water settled by flooding or water jetting and flooding to the top of the planting hole. Thereafter, watering shall be weekly by flooding the planting hole making sure the ground is kept moist at all times, both around and below the root ball, with a sufficient amount of water as seasonal conditions require.

It is anticipated that each planting hole will take in excess of 25 gallons at each watering.

B. TREE TRUNK PROTECTION

A tree trunk protector shall be installed on all trees except those planted in tree wells to prevent damage from maintenance equipment and string weeders. Protectors shall be "Trunk guard" by Century Products (714) 961-1341 or equal, approved by the Engineer.

TREE WELL COVERS

This work may consist of furnishing and placing pre-cast tree well covers as indicated on Standard Plan 32-02, included herein. Each half tree well cover shall mean a cover to be used for a tree well having dimensions of 17½" x 35" or 23½" x 47", having a minimum of an 18" diameter hole for the tree and 3" thick, reinforced with 2¼" x 2¼"-16 gauge wire mesh or wire mesh and rebar. A tree well having dimensions of 3' x 3' or 4' x 4' shall have a 2 piece cover. Tree cover holes shall be filled around the tree trunk with a medium sized ground bark or brush chips. Poured in place covers are not acceptable.

Tree well covers shall be installed at time of tree planting.

C. EXISTING TREE WELL COVERS

This subdivision may also include replacing trees which were planted by others and that have either died or been destroyed. The existing tree well covers shall be salvaged and reused if possible by the Subdivider. Any cover damaged by the Subdivider shall be replaced in kind at no cost to the Agency.

D. PLANTING HOLES - NORMAL CONDITIONS

Holes for planting 15-gallon trees shall be dug 30" diameter x 35" deep. The Subdivider shall excavate and dispose of the existing soil removed from the planting holes. The holes shall then be lined on all sides with 6 mil minimum polyethylene film lapped a minimum of 6" and sealed with an approved sealant to prevent seepage of contaminates from the surrounding soil into the hole. Holes shall be backfilled with a prepared soil mix as specified on the following pages. Crushed Rock backfill outside the root barrier but inside the 6 mil polyethylene film shall be as large as possible (1½ to 3") with no small stones, sand, fines, dirt, or debris.

SPECIAL PROVISIONS FOR TREE PLANTING - SUBDIVISIONS

E. TREE STAKES AND TIES

Staking in Subsection 308-4.6.1(A) of Standard Specifications for Public Works Construction is amended to use Landscape Plans L.S. 004. Tree stakes shall be as shown on Standard Plan L.S. 004. Trees shall be tied as specified in Subsection 308-4.6.1 of the Standard Specifications; however, two tie locations shall be used instead of one.

Tree stakes shall be positioned against, but not through, the plant root ball, and shall be placed against the rim of the tree well cover opening (18" diameter).

F. SLOPE PROTECTOR

A slope protector shall be installed on all trees planted in a slope where there is a chance of soil washing down into the tree's watering basin; or where an overflow of water in the basin would cause erosion to the water containment of each basin.

All slope protectors shall be made of high density and high impact plastic such as polystyrene, polyethylene or polyvinyl chloride, having a minimum thickness of .120 mils, shaped to the contour of the slope and extending 4 inches above the same. It shall extend a minimum of 12 inches into the ground and be supported with four (4) 3/8 inch (#3) hooked over the top rebar or 3/4 inch schedule 40 P.V.C. pipe. This support shall extend a minimum of 2 feet into the ground and not higher than the slope protector. The protector may also be incorporated as part of the required root barrier. It shall be circular in design with joining edges securely fused. To be supplied at the time of tree planting. Protectors shall be "Slope Guard" by Century Products (714) 961-1341 or equal, as approved by the Engineer.

G. TREES

All trees shall be in a healthy, rapidly growing condition and shall be inspected and approved by the Engineer before placement.

All trees in storage must have the root balls uniformly moist at all times. Trees delivered to the planting site with dry root balls will be rejected. Trees shall be covered while in transit to prevent wind damage.

H. PLANTING AREAS

Tree planting shall be completed in one predesignated area before moving to another. The Engineer shall be informed when an area is completed. All trees shall be planted at a depth whereby the root's crown shall bear the same relative position to the soil surface of the finished grade, except for trees planted in tree wells which shall be 7 inches below the surface of the sidewalk.

In all cases where tree wells are cut or formed, flashing barricades shall be kept in well openings until such time as the trees or covers are installed. (Section 7-10.3 of Standard Specifications for Public Works Construction, 1988).

I. SPACING OF TREES

All trees shall be planted in accordance with spacing and locations designated on the preceeding pages and in accord with the Engineer. A designated paint dot on the curb or sidewalk indicates approximately where the tree shall be planted as measured along the curb or pavement edge.

4--75

SPECIAL PROVISIONS FOR TREE PLANTING - SUBDIVISIONS

J. TYPES OF TREES

Tree types shall be selected by the subdivider or his agent and approved prior to the time of planting. It is anticipated that most trees will be species that are listed on the attached Plans; however, other species may also be required for continuing streets. Trees shall be selected from local nurseries. A Recommended List of Nurseries is as follows:

1. Valley Crest Tree Company - Sylmar - (818) 367-5803
2. Norman's Nursery - San Gabriel - (818) 285-9795
3. Arbor Nursery - Duarte - (818) 357-4823
4. Sakaida Nursery, Inc. - San Gabriel - (818) 285-9981
5. ABC Nursery - Gardena - (213) 327-9212

Other nurseries may be used, however, all trees must be inspected locally for acceptability prior to planting.

Paragraph (b) Subsection 212-1.4 of the Standard Specifications is supplemented by the following:

Minimum tree dimensions, height and trunk diameter, relative to container size, shall be as specified on the tree species master list herein. Pot-bound trees will be rejected.

15 gallon size - All trees shall not be less than seven (7) to (8) feet in height, nor have a trunk not less than three-quarter (3/4) inch in diameter, six (6) inches above root's crown unless otherwise specified on the master tree species list included herein. All trees shall be grown or established in 15 gal containers, unless otherwise stated.

Container grown stock shall have been in the container for a sufficient length of time for root establishment but not less than 9 months or as approved by the Engineer. Field grown stock shall have been transplanted into the container at least 300 days prior to planting unless otherwise approved by the Engineer.

All planting stock must be removed from the container without a loss of soil or breakage of the root ball. Trees shall be planted with ball of soil intact.

K. PREPARED SOIL MIX

The fourth paragraph of Subsection 308-4.5 of the Standard Specifications is amended to read as follows:

All planting holes shall be backfilled with a prepared soil mix to be mixed on the jobsite or at a central location as approved by the Engineer and consisting of the following proportions:

PREPARED SOIL MIX (CONT)

(a) Initial Planting (new or Replacement)

(1)	Class A topsoil	50%
(2)	Kellog's nitro humus, topper, or equal	20%
(3)	Redwood shaving (1% nitrogen fortified)	30%
(4)	Dry type wetting agent Aqua-Gro "G" or equal	2 lb/cy
(5)	Urea formaldehyde	2 lb/cy
(6)	21-gram, 21-10-5 fertilizer tablets or approved equal, placed high around the root ball, or Gro-Power Controlled release 12-8-8 in quantities recommended by the manufacturer.	3 each
(7)	Synthetic, high molecular weight, cross-linked polyarcylamide (commonly known as Granular Polymer Absorbent) mixed thoroughly in and placed directly beneath the root ball in a hydrated state, in quantities recommended by the manufacturer or distributor. A minimum of 2 gallons of Hyrolized Polymer is requested. Brand names include "Hydreserve" and "Broadleaf P-4", "Agrosoke", "Supersorb", or equal as approved by the Inspector. It shall be pre-soaked (Hydrolized) and incorporated in the lower 13 inches of the soil mix beneath the root ball.	

(b) Replanting (only)

(1)	Previously amended soil	90%
(2)	Kellog's nitro humus, topper or equal	10%
(3)	Dry type wetting agent	2 lb/cy
(4)	Hydrolized Polymer-Absorbent	2 gal each

All topsoil amendments shall be thoroughly mixed with the stockpile so as to prevent uneven distribution of soil amendments. All mixing operations shall be subject to inspection.

The initial planting mix (a) may be used for replanting, but it is not required.

Backfill shall be tamped firmly into place without injury to the ball or roots of the trees. The backfill shall be thoroughly flood-settled and additional prepared soil mix and rock added to fill any remaining voids below the finished grade of the Plans.

L. TRIMMING

Immediately after planting, all trees shall be pruned of all dead, broken or damaged branches.

M. COMPLAINTS

Complaints resulting from the Subdivider's operation will be referred to Subdivider for prompt handling and satisfactory adjustment. All such adjustments will be at the Subdivider's expense, whether said complaints arise from Agency authorities, or from private property owners or others.

SPECIAL PROVISIONS FOR TREE PLANTING - SUBDIVISIONS

N. PLANT MAINTENANCE
Subsection 308-6 of the Standard Specifications is amended to read as follows:

The Subdivider shall maintain all trees planted for a period of 365 days after having been planted, inspected, and approved. The Subdivider shall replace in kind, at no cost to the Agency, any and all trees and other items installed within this Subdivision, that have died or failed to make satisfactory progress or have been damaged or removed during the period of maintenance. These subsequent trees shall also be maintained for a period of 365 days. The Subdivider will not be held responsible for replacing a tree he planted that has been subsequently destroyed by others.

Included in Maintenance:

1. Apply water is sufficient quantities, and as often as seasonal conditions require, to keep the ground moist at all times well above and below the root system.
2. Trim, shape and tie trees as needed for preservation.
3. Complete insect and disease control of all trees.
4. Prior to the end of the 365 day maintenance period, apply a commercial fertilizer, analysis 16-20-0, at the rate of 0.1 pounds per top of the rootball and water it in thoroughly, or may be applied in a liquid form as 8-24-0 or 20-20-20.

5. At the end of the 365 day maintenance period, all planting areas must be thoroughly weeded, cleaned up and all excess material and debris removed.

The Subdivider will not be relieved of the 365 day maintenance work until after the above work has been satisfactorily completed and approved by the Engineer.

O. WORKMANSHIP
The Subdivider shall maintain a representative on the job in charge of the work who is knowledgeable in the field of arboriculture. The Subdivider's representative shall be conversant in the English language.

P. PROPERTY DAMAGE
All property damage resulting from the Subdivider's operations shall be repaired within 3 days at the Subdivider's expense and to the satisfaction of the Engineer.

Q. EXISTING IMPROVEMENTS
The provisions of Section 7-9 entitled "Protection and Restoration of Existing Improvements" of the Standard Specifications shall apply except as modified below.

EXISTING IMPROVEMENTS (CONT)

When any portion of a sprinkler system or drainage lines are damaged as a result of the Subdivider's operations, the damaged system shall be repaired within three (3) working days from the date the damage occurred. All repairs shall be made using new materials that are of the same kind as the existing systems being repaired (i.e., galvanized pipe replaces galvanized pipe, PVC pipe replaces PVC pipe, equivalent sprinkler heads, etc.). A repaired system shall be flushed and tested for acceptance in the presence of the Engineer.

When an interfering portion of a sprinkler system within the right of way or grading limits must be removed, unless otherwise indicated on the plans, the remaining lines shall be capped and the portion of the sprinkler system left in place shall be restored to a fully operative condition as indicated above unless otherwise directed by the Engineer. Interfering sprinklers and sprinkler systems outside the right of way but surrounding the working area which are removed shall again be replaced in satisfactory operating condition as indicated above unless otherwise indicated on the plans or directed by the Engineer.

When any portion of a utility service in the parkway is damaged as a result of the Subdivider's operations, a repair shall be effected immediately (i.e., the same day). If the damage occurs between the utility meter and the street, the Subdivider shall immediately stop his operations and contact the servicing utility company and arrange for an immediate repair. If the damage occurs between the utility meter and private property, the Subdivider shall effect an immediate permanent repair using approved new materials of the same kind as existing. Repaired utility lines shall be left clean and free of debris. After the repair is complete, the Subdivider shall verify that all facilities effected have been restored to normal operation.

The cost for all sprinkler system work, drainage lines and utility service repairs shall be borne by the Subdivider.

R. CLEANUP

The Contractor shall clean all job sites daily when work is completed, including the lawns, parkways and streets.

S. INSPECTION

Trees shall be subject to a maximum 3% "Destruct Test" at the discretion of the Engineer in order to obtain trees that are free from (a) compression fractures of the stem, (b) compacted root systems, (c) girdling roots, (d) insects, and (e) diseases. This "Destruct Test" will be considered a basis for rejection of the entire lot of trees submitted for inspection. Any costs shall be borne by the Subdivider.

The following inspections and approvals by the Engineer will be required:

1. Inspect trees after delivery to site.
2. Inspection of Ingrediants and Soil Mixing Process
3. Inspect planting holes before backfilling.
4. Inspect backfill soil mix before planting.
5. Inspect at beginning of maintenance period.
6. Inspect at completion of maintenance period.

SPECIAL PROVISIONS FOR TREE PLANTING - SUBDIVISIONS

T. FINAL INSPECTION

When work is completed and ready for final inspection, the Subdivider shall notify the Engineer. As soon as practical thereafter, the Engineer will make the necessary inspection, and if the work is found to have been properly performed and completed in accordance with the provisions contained herein, he will accept it.

DM:ad/TP.8-15

GUIDE FOR SELECTING TREES

The attached list of trees is for your use in selecting the appropriate trees for use in you subdivision.

A The same species of trees on a continuing street shall be used when the street is to be extended into your development. Known as "Continuing trees." This tree specie may not be on the "master tree list."

B. The species of tree for other streets in the development shall be varied.

C. It is recommended that you check with your supplier and landscape architect to determine the availability of any specific tree, and for a determination of its suitability for the area, and whether it would be compatible with the type of soil, temperature, wind and water requirements in your development.

D. Road Maintenance Division "Tree Superintendents" in the following areas can assist you in determining the species of tree on a continuing street.

1. San Gabriel Valley:
   Maintenance District 1 (818) 337-1277 Ext.27
   (L.A.) (213) 283-3644 Ext. 27

2. South County:

   Maintenance District 4 (310) 862-0517

3. Southwest County, including Malibu and Agoura:

   Maintenance District 3 (213) 776-7555

4. North County, including Altadena:

   Maintenance District 1 (818) 249-0248

The species of tree that you select is subject to Road Maintenance Division approval.

MASTER PARKWAY TREE LIST

15 GALLON TREES OR LARGER

	BOTANICAL NAME COMMON NAME	Ever-green	Zones	Area	Min.* Height	Min. Caliper	Min. Pk.Wy Width	Median Use
196.	Archontophoenix cunninghamiana King Palm	Y	21-24	SCIV	4½'	3½"	3'	M
27.	Arecastrum romanzoffianum Cocos Queen Palm	Y	19-24	SCIV	5½'	3½"	3'	M
216.	Bauhinia purpurea Purple Orchid Tree		18-23	CI	7'	Av. 3/4"	4'	
204.	Callistemon lanceolatus Lemon Bottlebrush	Y	19-24	SCI	7'	3/4"	3'	M
147.	Calodendrum capense Cape Chestnut		19,21-24	CIV	7'	1"	4'	
105.	Carya Illinoinensis Pecan		11-19	IVD	7½'	3/4"	4'	
157.	Cassia excelsa Crown of Gold Tree		19-24	CIV	6½'	3/4"	3'	
148.	Cassia leptophylla Gold Medallion Tree		21-24	CIV	6½'	3/4"	3'	
206.	Casuarina stricta Coast Beefwood	Y	18-24	CIV	7'	3/4"	5'	M
28.	Cupaniopsis anacardioides Carrotwood	Y	19-24	CIV	7½'	3/4"	4'	
139.	Eriobotrya deflexa Bronze Loquat	Y	(11)-18-23	CI(D)	7½'	3/4"	4'	M
142.	Eucalyptus rudis Desert Gum	Y	11-19	IVD	7½'	3/4"	4'	M
195.	Ficus m. nitida "Green Gem" Green Gem ficus	Y	19-24	CI	6½'	3/4"	4'	M
150.	Ficus m. nitida Variegata Var. Ind. Laurel Fig	Y	19-24	CI	6½'	3/4"	4'	
41.	Ficus retusa nitida Indian Laurel Fig	Y	21-24	CI	7½'	3/4"	5'	
152.	Fraxinus oxycarpa "Raywood" Raywood Ash or Claret Ash on Green Ash rootstock		11,19-24	CIVD	7'	1"	4'	
155.	Fraxinus velutina "Modesto" Modesto Ash		11,18-24	CIVD	7'	1"	4'	
156.	Fraxinus velutina "Rio Grande" Fan-Tex Ash	Y	11,18-24	CIVD	7'	1"	4'	
199.	Geijera parviflora Australian Willow	Y	18-24	SCIV	7'	3/4"	4'	M
158.	Ginkgo biloba "Autum Gold" Ginkgo or Maidnehair Tree		18-24	CIV	6½'	3/4"	4'	M
193.	Ginkgo biloba "Fairmount" Fairmount Madinhair Tree		18-24	CIV	6½'	3/4"	4'	M
159.	Gleditsia triacanthos "Shademaster" Honey Locust		11,18-24	IVD	7'	3/4"	4'	
160.	Gleditsia triacanthos "Skyline" Pyramidal Locust		11,18-24	CIVD	7'	3/4"	4'	M

'4-82

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

MASTER PARKWAY TREE LIST

15 GALLON TREES OR LARGER

	BOTANICAL NAME COMMON NAME	Ever-Green	Zones	Area	Min.* Height	Min. Caliper	Min. Pk.Wy Width	Med. Use
220.	Gleditsia triacanthos "Sunburst" Sunburst Locust		11,18-24	CIVD	7'	3/4"	4'	M
161	Hymenosporum flavum Sweetshade	Y	18-23	CIV	6½	3/4"	4'	M
10.	Jacaranda acutifolia Jacaranda		19-24	SCIV	7½'	3/4"	5'	
162.	Koelreuteria bipinnata Chinese Flame Tree		18-24	SCIV	7'	3/4"	4'	M
163.	Koelreuteria paniculata Goldenrain Tree		11,18-21	CIVD	7'	3/4"	4'	M
5.	Lagerstroemia indica A) Pink Crape Myrtle B) Red C) Lavender D) White		18-21	IV	7½'	3/4"	3'	M
224.	Lagerstroemia indica "X-Fauriei" "Hybred"		18-21	IV	7'	3/4"	3'	M
164.	Lagerstroemia indica "Indian Tribes" Tribes Crape Myrtle		18-21	IV	7'		3'	M
165.	Lagerstroemia indica "Redfern" Redfern Crape Myrtle		18-21	IV	7'	3/4"	3'	M
167.	Liquidambar s. "burgundy" American Sweet Gum		18-24	SCIV	7½'	3/4"	4'	M
221.	Liquidambar orientalis Oriental Sweet Gum		18-24	SCIV	7'	3/4"	4'	M
166.	Liquidambar s. "Palo Alto" American Sweet Gum		18-24	SCIV	7½'	3/4"	4'	M
175.	Liquidambar styraciflua American Sweet Gum		18-24	SCIV	7½'	1"	4'	M
124.	Liriodendron tulipifera Tulip Tree		19-23	CI	7'	3/4"	5'	
2.	Magnolia grandiflora Southern Magnolia	Y	18-24	SCIV	7'	1"	6'	
172.	Melaleuca linariifolia Flaxleaf Paperbark	Y	18-23	CIV	7'	3/4"	3'	M
51.	Melaleuca quinquenervia Cajeput Tree	Y	(20)-24	CI(V)	7'	3/4"	4'	M
138.	Metrosideros excelsus. New Zealand Christmas Tree	Y	23-24	SC	7'	3/4"	3'	M
66.	Pistacia chinensis Chinese Pistache		11,18-24	CIVD	7'	3/4"	4'	M
178.	Pittosporum rhombifolium Queensland Pittosporum	Y	(18)-24	SCI(V)	7'	3/4"	4'	M
180.	Platanus acerifolia "yarwood" London Plane Tree		11,18-24	CIVD	8'	1"	5'	
181.	Podocarpus gracilior Fern Pine	Y	18-24	CIV	7'	3/4"	4'	M

44-83

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

MASTER PARKWAY TREE LIST

15 GALLON TREES OR LARGER

	BOTANICAL NAME COMMON NAME	Ever-Green	Zones	Area	Min.* Height	Min. Caliper	Min. Pk.wy. Width	Med. Use
182.	Podocarpus macrophyllus Yew Pine	Y	18-24	SCIV	7'	3/4"	4'	
183.	Podocarpus macrophyllus maki Shrubby Yew Pine	Y	18-24	SCIV	6½'	3/4"	3'	M
201.	Pyrus calleryana "Capitol" Capital Pear		11,18-24	CIVD	7'	1"	4'	M
185.	Pyrus calleryana "Chanticleer" Chanticleer Pear		11,18-24	CIVD	7'	1"	4'	M
184.	Pyrus calleryana "Aristocrat" Aristocrat Pear		11,18-24	CIVD	7'	3/4"	4'	M
194.	Pyrus calleryana "Red Spire" Red Spire Pear		11,18-24	CIVD	7'	1"	4'	M
78.	Quercus agrifolia Coast Live Oak	Y	18-24	CIV	6'	5/8"	4'	
79.	Quercus ilex Holly Oak	Y	11,18-24	CIVD	7'	3/4"	4'	
81.	Quercus suber Cork Oak	Y	11,18-24	CIVD	6½'	3/4"	4'	
187.	Quercus virginiana Southern Live Oak	Y	(11)18-24	CIV(D)	6½'	3/4"	4'	
188.	Raphiolepis "Majestic Beauty" Raphiolepis Tree	Y	18-24	CIV	6½'	3/4"	3'	M
190.	Robinia a. "Idahoensis" Idaho Locust		11,18-24	CIVD	7'	3/4"	4'	
222.	Robinia p. "Purple Robe" Purple Robe Locust		11,18-24	CIVD	7'	3/4"	4'	
192.	Tabebuia avellanedae "ipe" Lavender Trumpet Tree		20-24	CIV	6½'	3/4"	3'	M
223.	Tabebuia chrysotricha Golden Trumpet Tree		20-24	CIV	6½'	3/4"	3'	M
88.	Trachycarpus Fortunei Windmill Palm	Y	18-24	CIV	5'	3½"	3'	M
90.	Tristania conferta Brisbane Box	Y	18-24	SCIV	8'	3/4"	5'	
179.	Tristania conferta variegatus Variegated Brisbane Box	Y	18-24	SCIV	7'	3/4"	5'	
95.	Zelkova serrata Japanese Zelkova		11,18-23	CIVD	7'	3/4"	5'	

All of the above trees are to be planted using the appropriate root barrier containment devices; and in acccordance with Landscape Sketches L.S. 001 through L.S. 006.

*TREE FORM

11-84

Areas - Are general geographical locations where trees are known to grow well. A parenthesis "()" means trees have been seen growing in that location, but may not be the best choice.

S=Seashore Areas
C=Costal Areas
I=Inland Areas
V=Valley Areas
D=Desert Areas

Zones - Are more specific areas where trees grow well, which corresponds to areas in "New Western Garden Book" by Sunset, Pages 20 & 21 in which trees are to be planted.

Med. Use= Median Usage Permitted. - Are trees that can be planted in Median Islands of appropriate size. Root Barriers are required.

Min. Pk. Wy. Width= Minimum Parkway Width - Is the amount of parkway width needed to plant that specific tree. Generally referred to as the dirt area between the curb and sidewalk or between back of sidewalk and right of way.

These widths apply only to where root barriers are installed.

Evergreen trees - Are denoted by a "Y" for yes - all others are to be considered deciduous. (seasonally drop their leaves).

Root Barriers - Root barriers are required on all newly planted trees.

DM:ds/P-CC2435R.1-.4
Revised 4-19-89

44-85

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
900 SOUTH FREMONT
ALHAMBRA, CA 91803-1460

PROCEDURES FOR THE PREPARATION OF STREET LIGHT LAYOUTS BY PRIVATE DEVELOPERS

T. A. TIDEMANSON
Director of Public Works

Effective: January 2, 1986

Revised: June 22, 1993

44-86

INTRODUCTION

In October 1964, the Los Angeles County Subdivision Ordinance was amended to require a street lighting system in each division of land in the unincorporated territory. (The Regional Planning Commission may eliminate this requirement if street lights will not be in keeping with the neighborhood pattern or if all lots within the land division contain not less than 40,000 square feet). Since that time, the County Street Lighting Section has been preparing detailed layouts showing the sizes and locations of the street lights required for each subdivision in the unincorporated territory and in 24 cities for whom the County administers lighting districts. The installation of street lights may also be required for tract maps, parcel maps, deeded streets, conditional use permits, road improvement permits, and developments on existing lots.

The Southern California Edison (SCE) Company designs the electrical circuits necessary to provide power to the street lights and they install the street lights and wiring. The developer is responsible for the installation costs. The developer is also responsible for the operation and maintenance costs for the street lights from the time the street lights are energized until SCE is authorized by the Street Lighting Section to add these costs to a County lighting district account, usually a period ranging from 1 to 2 years. In addition to preparing the detailed layouts used by the developer and SCE for the installation of the street lights, the Street Lighting Section has prepared preliminary layouts and cost estimates for recordation bounding purposes, free of charge.

In order to achieve maximum efficiency and cost effectiveness for all concerned, the following procedures and design criteria shall be used for the preparation of street lighting layouts to be furnished to the Street Lighting Section for review and approval.

For street lighting plan checking fees, please refer to Page 22 of these guidelines.

LAYOUT SUBMITTAL

Preliminary layouts prepared for bond estimated shall be submitted to the Land Development Division located at 900 South Fremont Avenue, Alhambra, California 91803-1331. The Land Development Division will forward the preliminary layout to the Street Lighting Section for review and estimating.

Detailed layouts prepared for use by the Southern California Edison Company shall be submitted to the Street Lighting Section at 900 South Fremont Avenue, Alhambra, California 91803-1331, telephone (818) 458-5926. Layouts submitted in phases will not be accepted for review and approval.

The layout shall be accompanied with the following items:

1. A written request for review and approval which shall include the date of the request and the name, address, and phone number of the person requesting the review and approval.

2. A copy of the regional planning commission's conditions of approval or, when applicable, a copy of the local municipality's conditions of approval indicating the street lighting requirements for the subdivision or development under consideration.

3. Two copies of blue prints of the layout.

4. A copy of blue print of the Tract/Parcel Map or plan showing area being developed.

5. A copy of blue print of the street improvement plan.

6. A copy of blue print of plot plan showing driveway locations.

The Street Lighting Section's files and maps are available for research from 6:45 a.m. to 5:30 p.m. Monday through Thursday. The Street Lighting personnel will be available to answer questions regarding procedures and design criteria during these hours. Upon written approval by the Street Lighting Section, the developer shall be responsible for forwarding the layout and approval letter which specifies the conditions which must be satisfied for annexation of the development to a County lighting district and the schedule for assumption of the operation and maintenance charges by a County lighting district to the Southern California Edison Company for design of the electrical circuits and scheduling of the street lighting installations. All lights shown on the layout must be energized prior to the acceptance of the lighting system by a County lighting district.

LAYOUT FORMAT

1. Layouts shall be prepared on paper or plastic coated linen from which blue prints or sepia copies can be readily produced on commercially available equipment.

2. The layout sheet size shall be 2 feet by 3 feet.

3. The layouts shall be drawn to an engineering scale (20 to 60 feet per inch) and the scale be clearly indicated on each sheet.

4. Each sheet shall include a clear indication of true north.

5. Each sheet shall be clearly numbered as 1 of 3, 2 of 3, 3 of 3, etc.

6. The first sheet of the layout shall include:

   A. A legend defining the symbols used to designate the lamp sizes and pole types to be installed.

   B. The design criteria for each street classification including the footcandles to be provided, the lamp size, the mounting height and luminaire light distribution classifications.

   C. Signature blocks: Layouts shall be prepared by or prepared under the supervision of a professional civil or electrical engineer with a valid California registration. Also, the layouts shall bear the seal or stamp of the registrant and expiration date of the certificate or authority. Layouts shall include two signature blocks. One signature block shall include the private engineer's name, registration number, phone number, and address. The other signature block shall provide for approval by the Department of Public Works.

   D. General notes as specified by the Street Lighting Section.

   A sample legend, design criteria, signature block for Public Works approval, and general notes are shown on Figure 1.

7. The layout shall show the street centerline, the street right-of-way lines, right-of-way dimensions, curb to curb widths, street names, lot lines, lot numbers, and development boundaries.

8. Existing and proposed driveways, catch basins, culverts, parkway drains, wheelchair ramps, and any other items which may interfere with the installation of proposed street lights should be either shown on the layout or such information should be shown on a plot plan or street improvement plan and submitted with the layout for checking.

9. The layout shall include the Thomas Brothers map page number and coordinates of the development.

10. The layout shall include the dimensioned locations of any existing street lights which may affect the locations of the new lights to be installed. The locations of existing lights adjacent to and within 250 feet of the boundaries of the proposed development shall be determined by field measurements by the developer for detailed layouts.

11. The layout shall include the sizes of the existing lights and the types of poles the existing lights are mounted on such as wood, steel, concrete, or traffic signal standards and pole numbers.

12. The layout shall include the dimensioned locations and sizes of any lights approved for adjacent or nearby developments which have not yet been installed but may affect the locations of the new lights to be installed. The development for which the lights were approved shall be clearly indicated on the layout.

13. Errors in the locations of existing lights or lights approved but not yet installed may result in delays in the final review and approval of the layout or relocation of the new lights at the developer's expense.

STREET LIGHTING SYSTEM FOR _____

LEGEND


PROP. 5,800 LUMEN 70 WATT H.P.S. LAMPS ON CONCRETE POLES


PROP. 9,500 LUMEN 100 WATT H.P.S. LAMPS ON CONCRETE POLES


PROP. 16,000 LUMEN 150 WATT H.P.S. LAMPS ON CONCRETE POLES


PROP. 22,000 LUMEN 200 WATT H.P.S. LAMPS ON CONCRETE POLES


PROP. 27,500 LUMEN 250 WATT H.P.S. LAMPS ON CONCRETE POLES


Light approved per adjacent development. Indicate Tract Number, Parcel Map Number, C.U.P., _____.


Proposed light shown on a different sheet.

Existing Street Light. Type of pole, size of lamp and pole number as indicated.


Proposed Highway Safety Light (HSL) - Lights on Signal Standards


Existing Highway Safety Light (HSL) - Lights on Signal Standards

Existing Caltrans Light

Existing _____ Lumen Light on _____ pole to be removed/relocated.

Existing _____ Lumen Light on _____ pole to be upgraded to _____ Lumen Light.

Existing _____ Lumen Light on _____ pole to be downgraded to _____ Lumen Light.

THE FOLLOWING ARE BASED ON I.E.S. DESIGN CRITERIA

THE 5,800 LUMEN POLE SPACING IS BASED ON 0.4 FOOTCANDLE FOR LOCAL RESIDENTIAL STREETS
THE LUMINAIRE SHALL HAVE A 25 FOOT MOUNTING HEIGHT. THE LUMINAIRE SHALL BE (A.N.S.I.-I.E.S.)
MEDIUM FULL CUTOFF, TYPE III AND EQUIPPED WITH 70 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THE 9,500 LUMEN POLE SPACING IS BASED ON 0.4 FOOTCANDLE FOR LOCAL RESIDENTIAL STREETS
THE LUMINAIRE SHALL HAVE A 25 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM
FULL-CUTOFF, TYPE III AND EQUIPPED WITH 100 WATT HIGH PRESSURE SODIUM VAPOR LAMP.

THE 16,000 LUMEN POLE SPACING IS BASED ON 0.9 FOOTCANDLE FOR COLLECTOR INTERMEDIATE STREETS
THE LUMINAIRE SHALL HAVE A 30 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM
FULL-CUTOFF, TYPE III AND EQUIPPED WITH 150 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THE 22,000 LUMEN POLE SPACING IS BASED ON 1.4 FOOTCANDLE FOR MAJOR INTERMEDIATE STREETS
THE LUMINAIRE SHALL HAVE A 30 FOOT MOUNTING HEIGHT SHALL BE (A.N.S.I.-I.E.S.)
MEDIUM SEMI-CUTOFF, TYPE III AND EQUIPPED WITH 200 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THE 27,500 LUMEN POLE SPACING IS BASED ON 1.4 FOOTCANDLE FOR HIGHWAY/COLLECTOR INTERMEDIATE
THE LUMINAIRE SHALL HAVE A 30 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM
SEMI-CUTOFF, TYPE III AND EQUIPPED WITH 250 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THE _____ LUMEN POLE SPACING IS BASED ON ___ FOOTCANDLE FOR _____ STREETS
THE LUMINAIRE SHALL HAVE A ___ FOOT MOUNTING HEIGHT. THE LUMINAIRE SHALL BE (A.N.S.I.-I.E.S.)
MEDIUM SEMI-CUTOFF, TYPE III AND EQUIPPED WITH _____ WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS					
APPROVAL FOR BONDING ESTIMATE			APPROVAL FOR INSTALLATION BY THE SOUTHERN CALIFORNIA EDISON COMPANY		
BY	R.C.E. NO.	DATE	BY	R.E.E. NO.	DATE

GENERAL NOTES FOR STREET LIGHTING LAYOUT

1. A LIGHT LOCATION MAY BE ADJUSTED A MAXIMUM OF 10' ONLY TO AVOID AN OBSTRUCTION SUCH AS DRIVEWAY, CATCH BASIN ETC...ANY DEVIATION EXCEEDING 10' SHALL HAVE PRIOR APPROVAL OF THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS.
2. A REVISED STREET LIGHTING LAYOUT SHALL BE REQUESTED FOR ANY CHANGES IN THE MAPS SUCH AS STREET ALIGNMENTS, LOT OR PARCEL SIZES, BOUNDARIES, ETC...
3. IN ORDER FOR A COUNTY LIGHTING DISTRICT TO ASSUME THE OPERATION AND MAINTENANCE FOR THE LIGHTING SYSTEM ON ANY PRIVATE AND FUTURE STREET, THE STREET SHALL BE OPEN TO GENERAL PUBLIC USE AT ALL TIMES.
4. ON STREETS WHERE THE SIDEWALKS ARE FIVE FEET OR LESS IN WIDTH AND ARE ADJACENT TO THE CURB, THE STREET LIGHTING ELECTROLIER STANDARDS AND PULL BOXES SHALL BE PLACED OUTSIDE THE SIDEWALK AREA UNLESS OTHERWISE SPECIFIED.
5. ALL MAST ARMS AND BRACKETS SHALL BE PERPENDICULAR TO THE CURB FACE AND 6' LONG UNLESS OTHERWISE SPECIFIED.
6. THIS STREET LIGHT LAYOUT EXPIRES TWO YEARS AFTER THE LATEST APPROVAL DATE.
7. ALL LIGHTS SHOWN ON THIS LAYOUT SHALL BE ENERGIZED PRIOR TO THE ACCEPTANCE OF THE LIGHTING SYSTEM BY A COUNTY LIGHTING DISTRICT.

FIGURE 1

LAYOUT RESEARCH

Information regarding pending adjacent or nearby developments may be available in one or more of the following:

A. Land Management Division wall maps and files.

B. Street Lighting Section overlay books and files.

C. City records when applicable.

The sizes and approximate locations of existing lights may be obtained from the Street Lighting Section maps. These maps are primarily for inventory purposes and the exact locations shall be determined by field measurements by the developer for detailed layouts.

DESIGN CRITERIA

In August 1963, the Board of Supervisors of the County of Los Angeles adopted a resolution requiring the levels of illumination recommended by the Illuminating Engineering Society (I.E.S.) to be adopted as guidelines for the design of street lighting systems.

These guidelines may be summarized for the streets most commonly encountered as follows:

I.E.S. Streets and Area Classification	Right-of-Way Width	Curb to Curb Width	Minimum Average Footcandles	Maximum Uniformity Ratio
1. Major Intermediate	100'	84'	1.4	3
2. Collector Intermediate	80'	64'	0.9	3
3. Local Residential	64' or less	40' or less	0.4	6

Illumination levels and uniformity ratios (ratio of average illumination level to minimum illumination level) required for streets with right-of-way widths or curb to curb widths other than those shown above should be obtained from the Street Lighting Section prior to preparation of the layout.

Street Light Spacings and Sizes

The following is a tabulation of the light sizes and spacings that will achieve the I.E.S. guidelines with the equipment normally installed by the Edison Company. Layouts proposing the use of non-standard equipment shall be submitted with detailed calculations and photometric data showing that the illumination and uniformity requirements are satisfied.

Curb to Curb Width	Light Size	Spacing	Configuration
84'	200 watt (22,000 lumen)	70' max 60' min	Staggered
64'	150 watt (16,000 lumen)	70' max 60' min	Staggered
40',36' and 34'	100 watt (9,500 lumen)	170' max 130' min (on tangents or on curves with R>700')	Staggered
		140' max 110' min (tangents or on curves with R>700')	One Side
		120' max 95' min (curves with R< 700')	One Side (outside of Curve)

The maximum spacings as indicated will provide the I.E.S recommended minimum illumination levels. In actual practice, these spacings are usually reduced to fit block lengths and to provide clearances from driveways, catch basins, and other obstructions. Spacings greater that those shown above will only be permitted under special circumstances and should be discussed with the Street Lighting Section prior to submittal of the layout for review.

The preceding spacings will provide the recommended illumination levels and uniformity ratios along the midblock portions of a street. However, I.E.S. recommends higher levels of illumination in areas of potential traffic conflict and other special situations such as intersections, knuckles, and cul-de-sacs. Satisfying the criteria at these locations may require adjustment of the midblock spacings. The midblock spacings should be adjusted to provide nearly equal distances between lights within the same block. The minimum spacings between lights shall be less than 25% variation from the maximum spacings allowed. For example, on local street when using stagger system, the maximum and minimum spacings will be 170' and 130', respectively. The lights should also be placed on or near lot lines when possible to do so without a substantial increase in the number of lights or significant deviations in spacings.

The following drawings show the preferred, alternate, or required locations and sizes of street lights for the situations most frequently encountered. The preferred locations should be used whenever possible. The alternate locations should be used only when the preferred location falls outside the development boundaries or when use of the preferred location is impractical because of driveways, catch basins, or other obstructions.

RECOMMENDATION

It is suggested that whenever possible, a combination of stagger system and one side system or one side system only be used if the lot frontages are such that a light can be located at every other lot/parcel line and the layout still meets the design criteria.

Figure 2 - Major or Collector Highway Intersection with Major or Collector Highway

Figure 3 - Major or Collector Highway Intersection with Major or Collector Highway when curves are involved

Figure 4 - Major or Collector Highway Intersection with Local Street

Figure 5 - Major or Collector Highway Intersection with Local Street when curves are involved

Figure 6 - Local Street Intersection with Local Street, 4 - Way

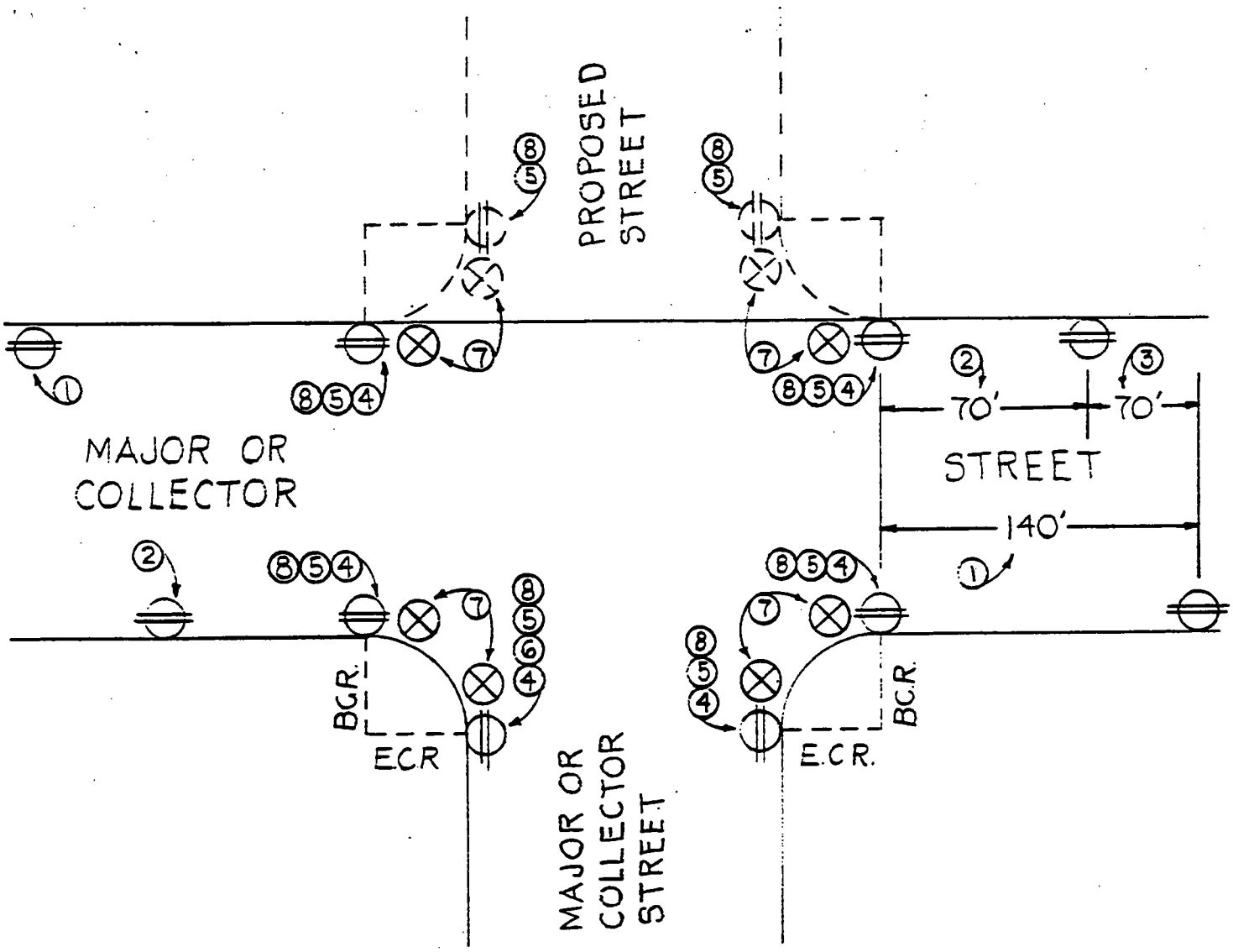
Figure 7 - Local Street Intersection with Local Street, 3 - Way ("T")

Figure 8 - Local Street Knuckle Type Intersection

Figure 9 - Local Street Cul-De-Sac

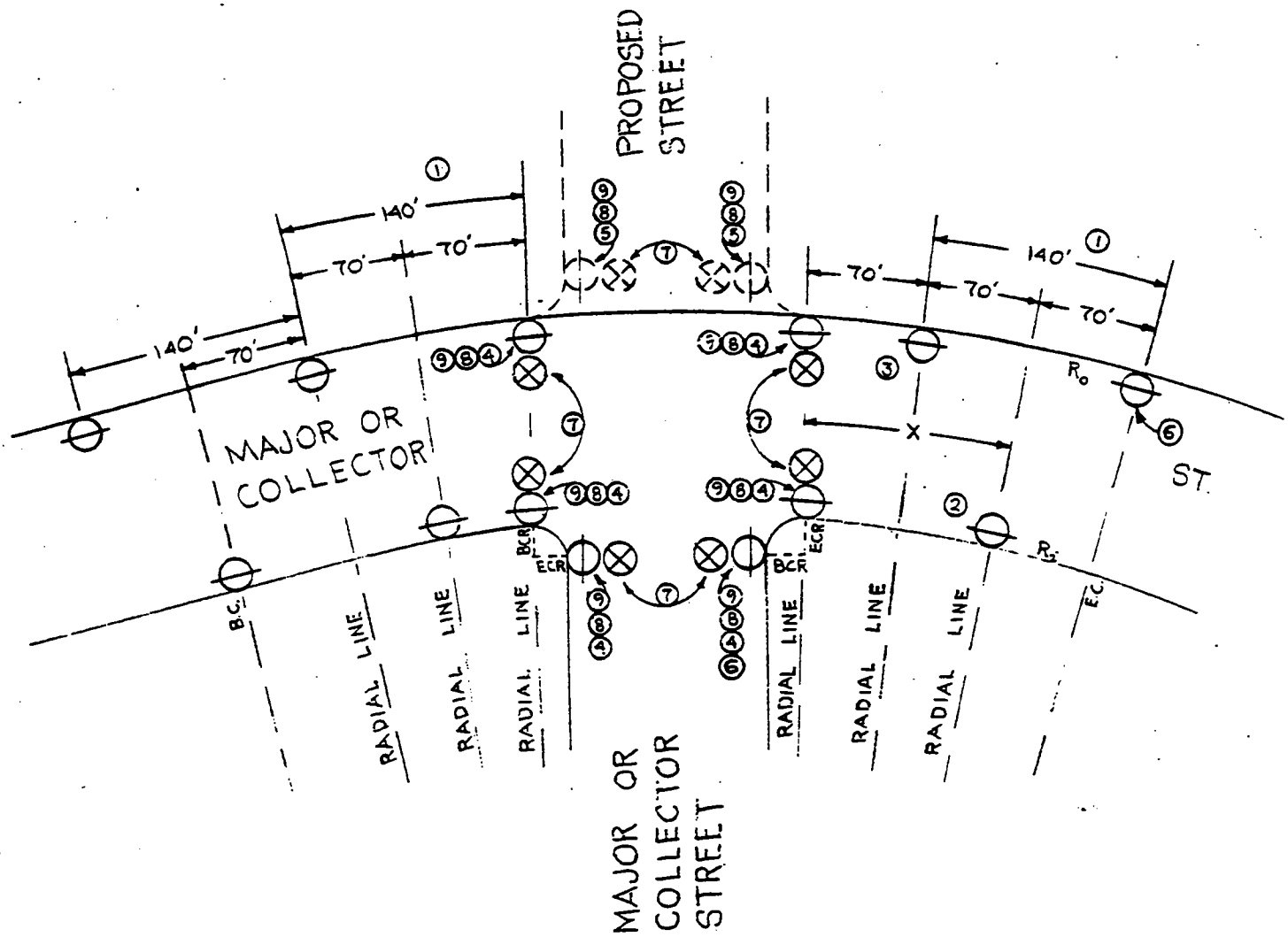
Figure 10 - Local Street Curve, R<700'

Figure 11 - Midblock Projects



1 140' SPACING FROM INTERSECTION LIGHT TO FIRST MID-BLOCK LIGHT ON EXIT SIDE, TYPICAL.
2 70' SPACING FROM INTERSECTION LIGHT TO FIRST MID-BLOCK LIGHT ON APPROACH SIDE, TYPICAL.
3 70' STAGGERED SPACING FOR MID-BLOCK LIGHTS, TYPICAL.
4 REQUIRED LOCATIONS AT B.C.R. FOR T-INTERSECTION.
5 REQUIRED LOCATIONS AT B.C.R. FOR 4-WAY INTERSECTION.
6 200 WATT ON MAJOR (84' CURB TO CURB) OR 150 WATT ON COLLECTOR (64' CURB TO CURB), TYPICAL.
7 PROPOSED HIGHWAY SAFETY LIGHTS (LIGHTS ON SIGNAL STANDARDS). LIGHT LOCATIONS PER PROPOSED SIGNAL PLAN.
8 INTERSECTION LIGHTS ARE NOT REQUIRED WHEN HIGHWAY SAFETY LIGHTS ARE PROPOSED. THE FIRST MID-BLOCK LIGHT SHALL BE MEASURED FROM THE B.C.R.

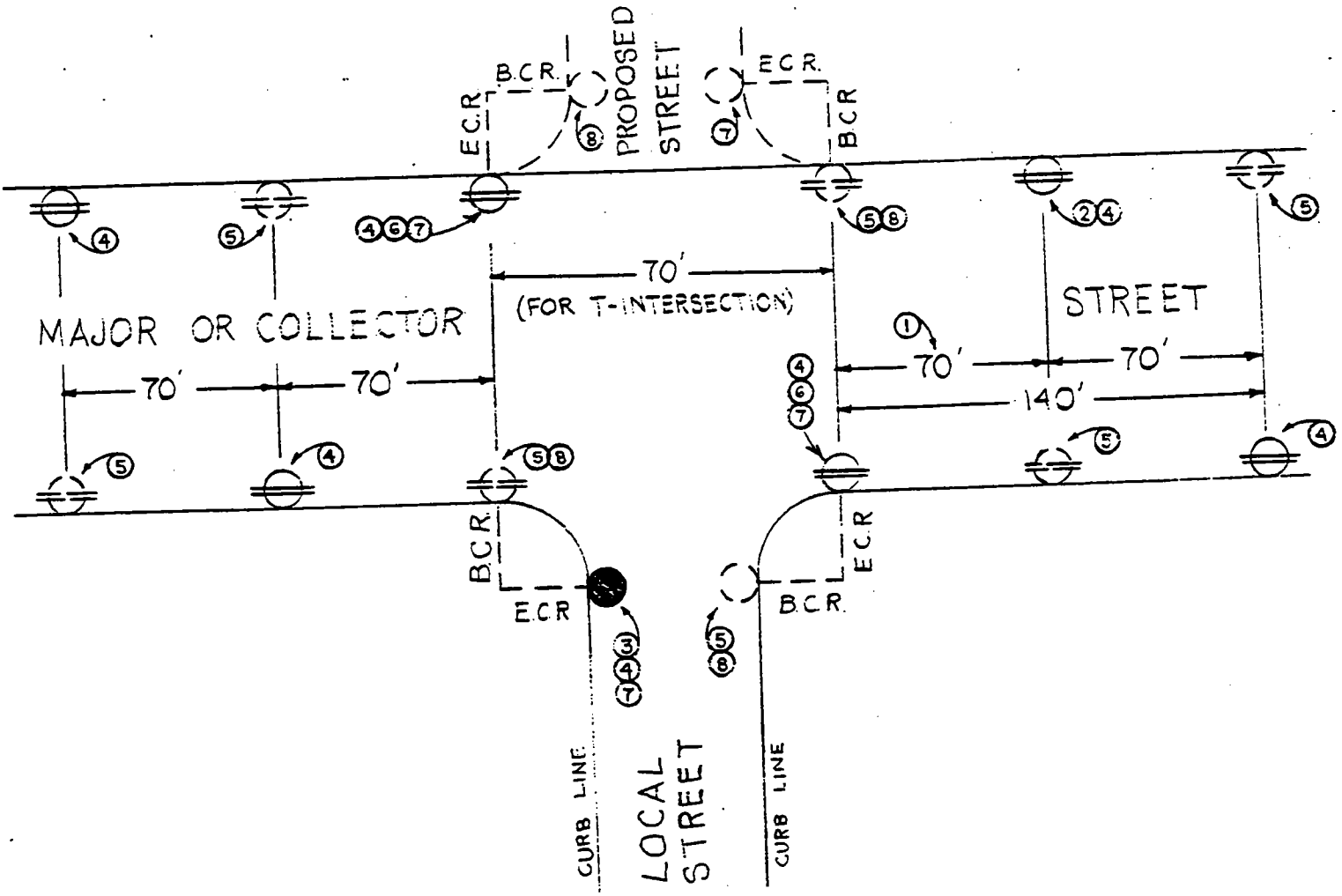
Figure 2



R_o = OUTSIDE RADIUS, R_i = INSIDE RADIUS, R_ℓ = CENTERLINE RADIUS

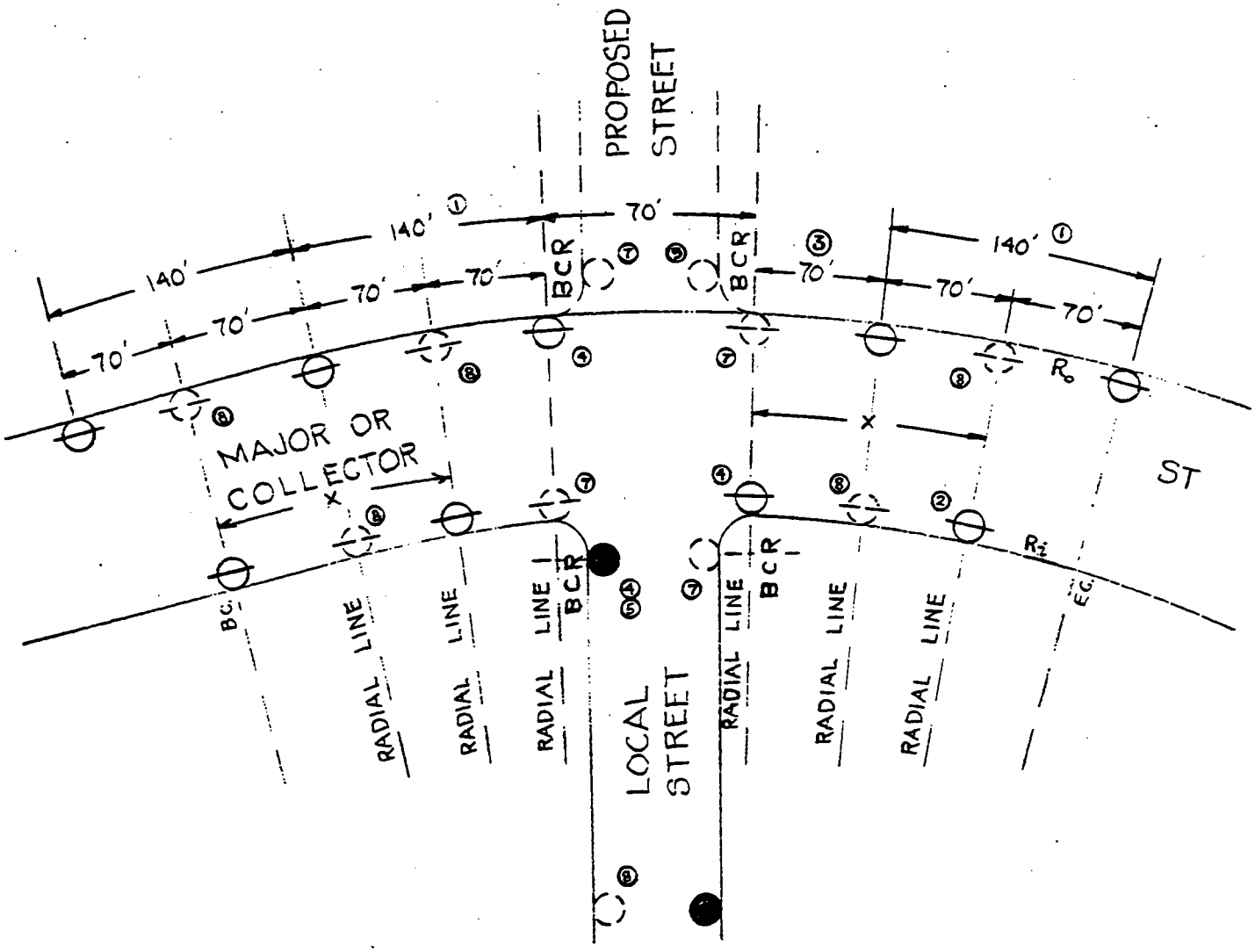
1 WHEN CURVES ARE INVOLVED, SPACING BETWEEN LIGHTS ON OUTSIDE CURVE CONTROLS.
2 $X = R_i/R_o$ (140') ON INSIDE CURVE SPACING FROM INTERSECTION LIGHT TO FIRST MID-BLOCK LIGHT ON EXIST SIDE, TYPICAL.
3 70' SPACING FROM INTERSECTION LIGHT TO FIRST MID-BLOCK LIGHT ON APPROACH SIDE, TYPICAL.
4 REQUIRED LOCATIONS AT B.C.R. FOR T-INTERSECTION.
5 REQUIRED LOCATIONS AT B.C.R. FOR 4-WAY INTERSECTION.
6 200 WATT ON MAJOR (84' CURB TO CURB) OR 150 WATT ON COLLECTOR (64' CURB TO CURB), TYPICAL.
7 PROPOSED HIGHWAY SAFETY LIGHTS (HSL - LIGHTS ON SIGNAL STANDARDS) LIGHT LOCATIONS PER PROPOSED SIGNAL PLAN.
8 INTERSECTION LIGHTS ARE NOT REQUIRED WHEN HIGHWAY SAFETY LIGHTS ARE PROPOSED. THE FIRST MID-BLOCK LIGHT SHALL BE MEASURED FROM THE B.C.R.
9 LIGHTS AT INTERSECTION TO BE PLACED AT B.C.R. EXCEPT OTHERWISE NOTED

Figure 3



1 70' STAGGERED ON MAJOR (84' CURB TO CURB) OR COLLECTOR (64' CURB TO CURB), TYPICAL.
2 200 WATT ON MAJOR OR 150 WATT ON COLLECTOR, TYPICAL.
3 100 WATT ON LOCAL (34', 36', OR 40' CURB TO CURB), TYPICAL.
4 PREFERRED LOCATION FOR T-INTERSECTION.
5 ALTERNATE LOCATION FOR T-INTERSECTION.
6 LIGHTS ON BOTH SIDES OF STREET WHEN STREET IS ENTIRELY IN DEVELOPMENT. OTHERWISE INSTALL LIGHTS ON ONE SIDE (HALF SYSTEM).
7 PREFERRED LOCATION FOR 4-WAY INTERSECTION.
8 ALTERNATE LOCATION FOR 4-WAY INTERSECTION. USE EITHER ALL PREFERRED LOCATIONS OR ALL ALTERNATE LOCATIONS.

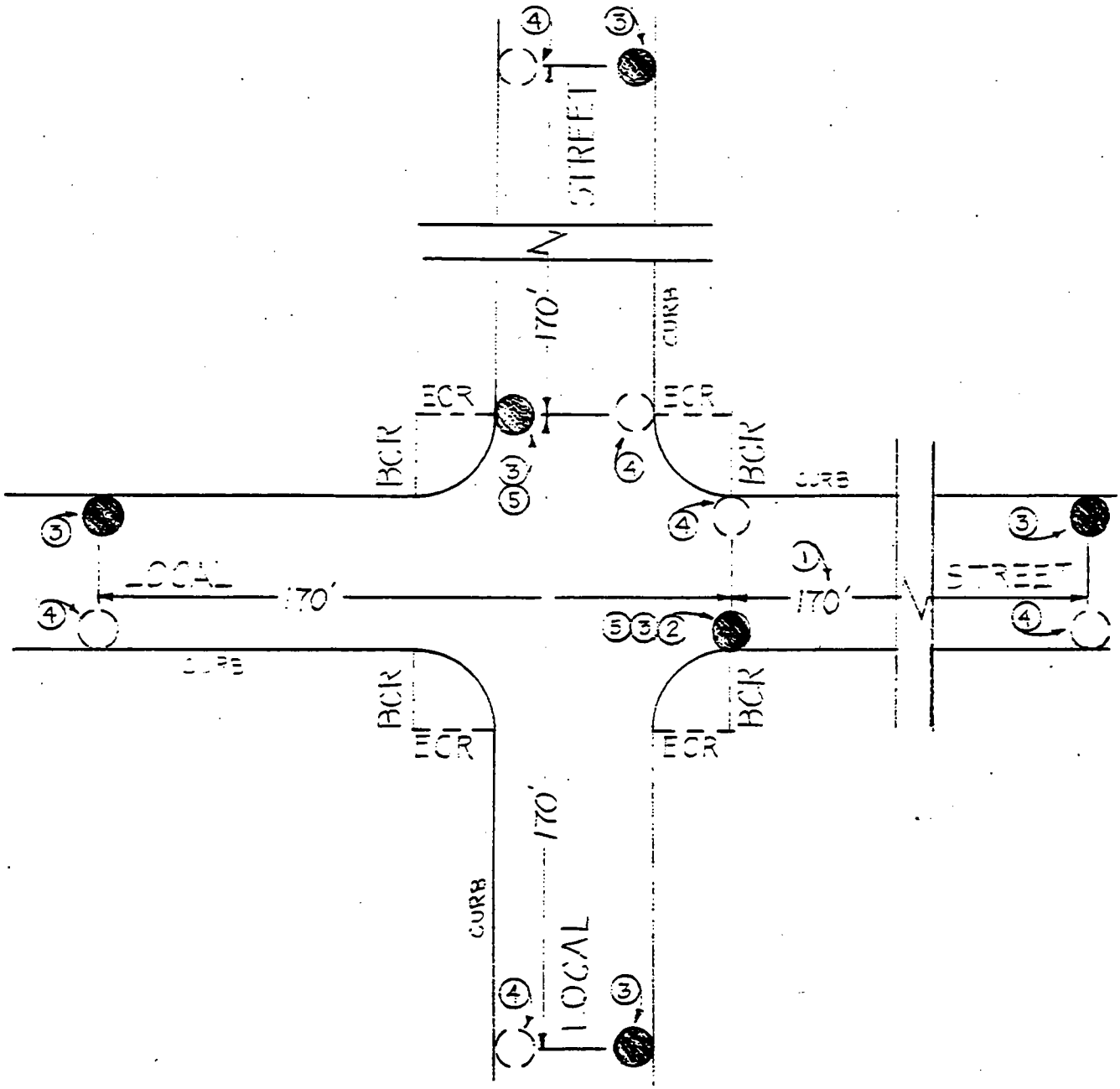
Figure 4



R_o = OUTSIDE RADIUS, R_i = INSIDE RADIUS, R_ℓ = CENTERLINE RADIUS

1 WHEN CURVES ARE INVOLVED, SPACING BETWEEN LIGHTS ON OUTSIDE CURVE CONTROLS.
2 $X = R_i/R_o$ (140') ON INSIDE CURVE SPACING FROM INTERSECTION LIGHT TO FIRST MID-BLOCK LIGHT ON EXIST SIDE, TYPICAL.
3 70' SPACING FROM INTERSECTION LIGHT TO FIRST MID-BLOCK LIGHT ON APPROACH SIDE, TYPICAL.
4 PREFERRED LOCATIONS FOR T-INTERSECTION.
5 PREFERRED LOCATIONS AT B.C.R. FOR 4-WAY INTERSECTION.
6 200 WATT ON MAJOR (84' CURB TO CURB) OR 150 WATT ON COLLECTOR (64' CURB TO CURB), TYPICAL.
7 ALTERNATION LOCATIONS FOR INTERSECTION
8 ALTERNATE LOCATIONS
9 LIGHTS AT INTERSECTION TO BE PLACED AT B.C.R. EXCEPT OTHERWISE NOTED

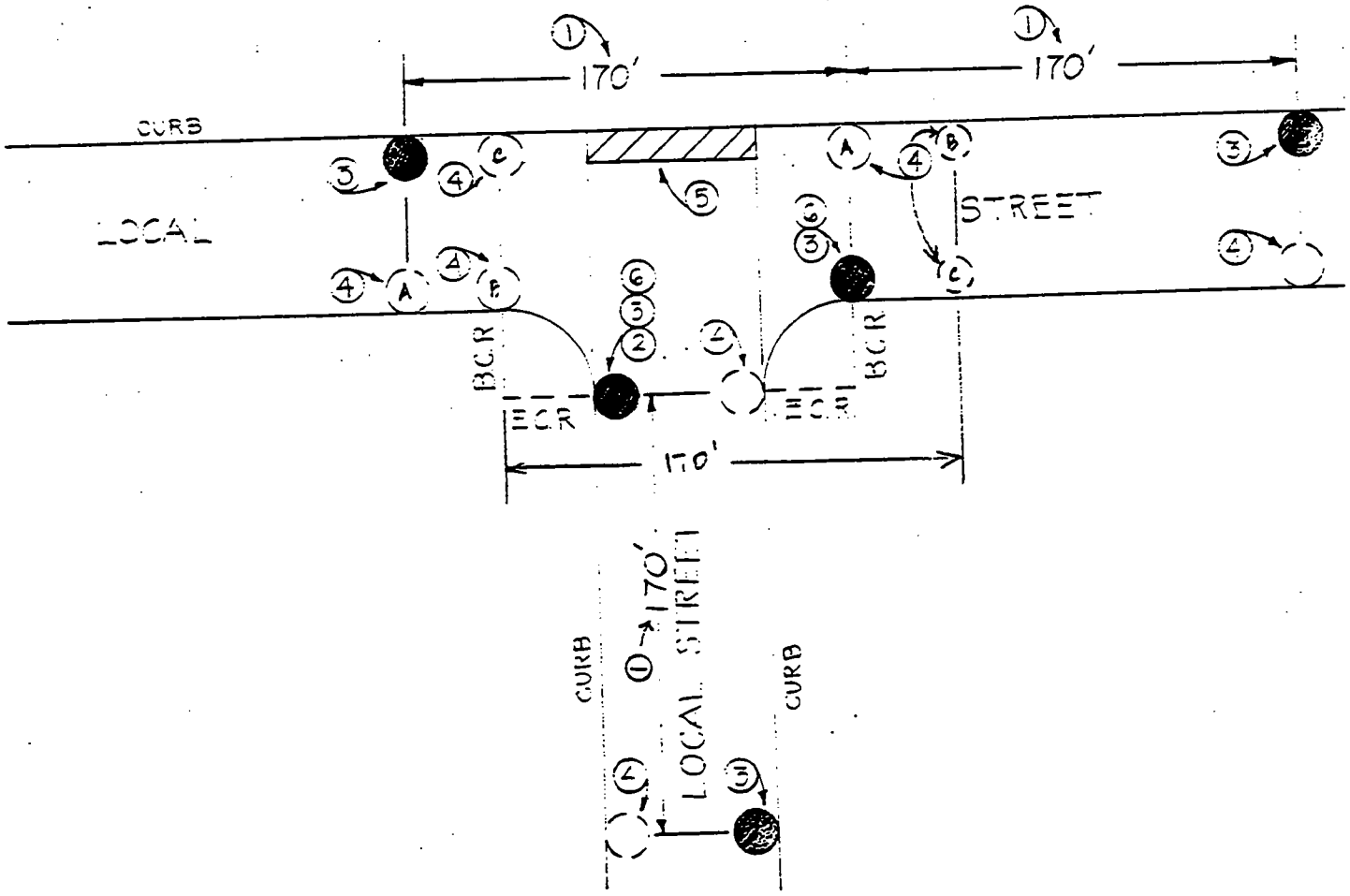
Figure 5



FOUR-WAY INTERSECTION

1 170' MAXIMUM STAGGERED SPACING ON LOCAL STREET (34', 36', OR 40' CURB TO CURB), PREFERRED. USE 140' MAXIMUM ONE-SIDE FOR HALF-STREET IMPROVEMENT.
2 100 WATT, TYPICAL.
3 PREFERRED LOCATION (ONE INTERSECTION LIGHT MAY BE PLACED UP TO 20' FROM B.C.R. OR E.C.R.).
4 ALTERNATE LOCATIONS. USE ALL PREFERRED OR ALL ALTERNATE LOCATIONS ON EACH STREET.
5 ONE LIGHT ON EACH STREET AT INTERSECTION TO PROVIDE TWICE MID-BLOCK ILLUMINATION AS RECOMMENDED BY I.E.S.

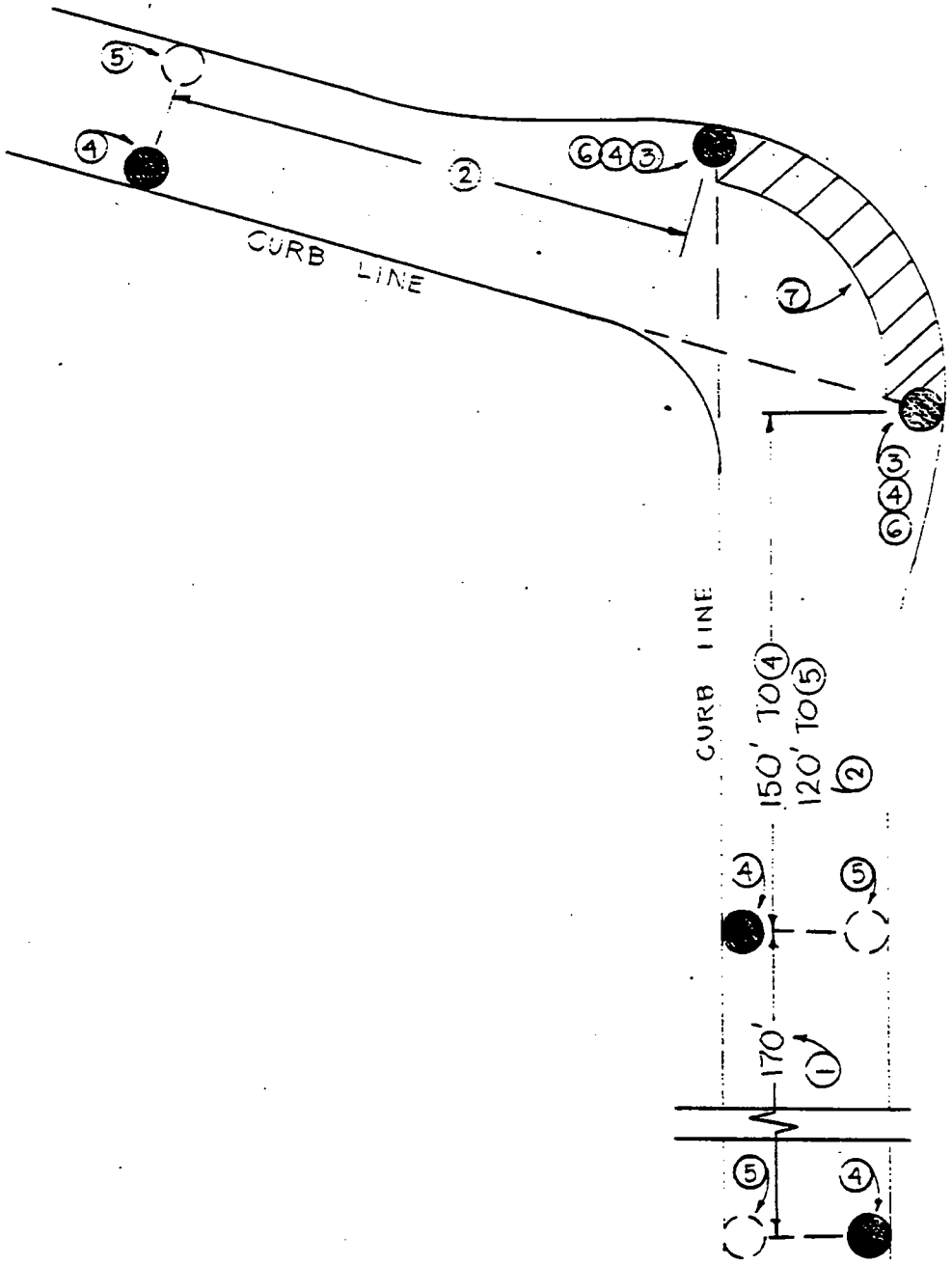
Figure 6



T-INTERSECTION

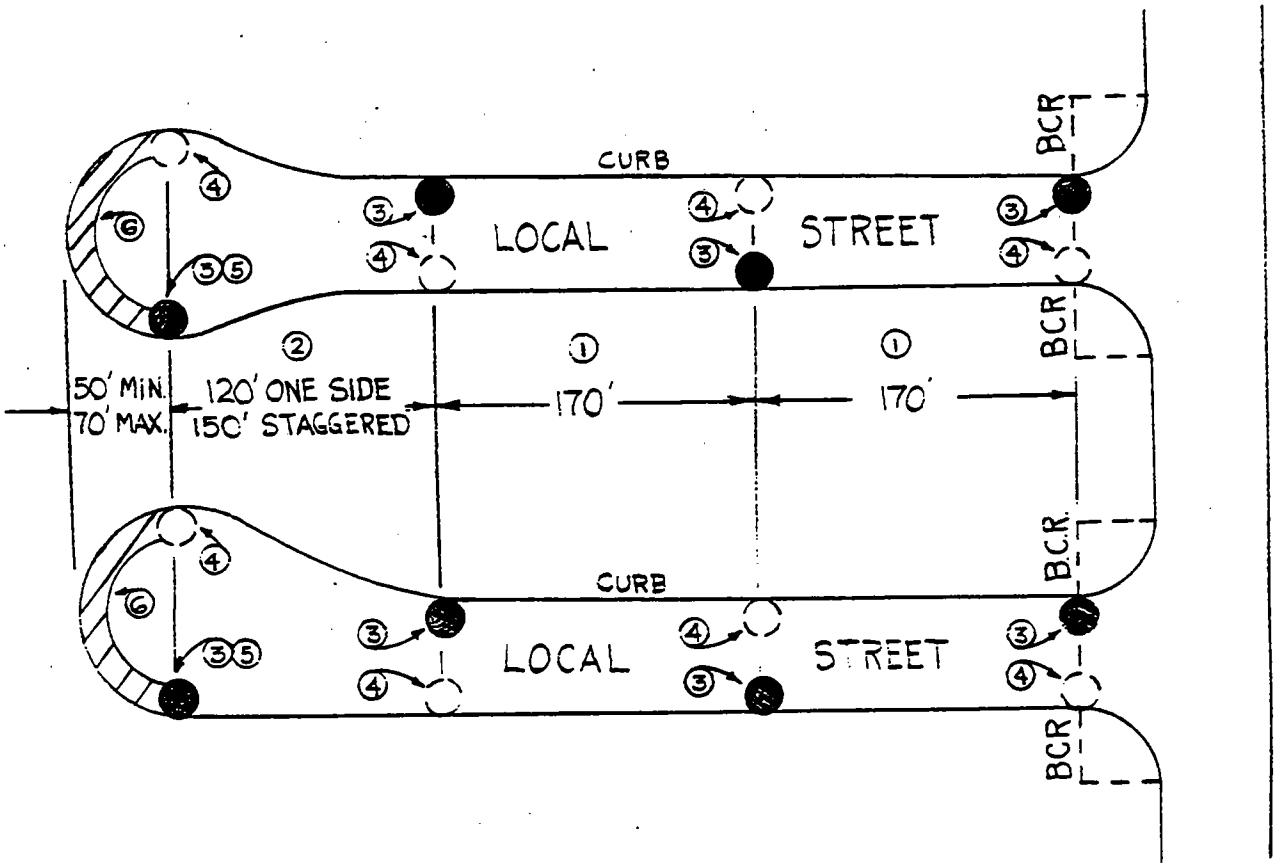
1 170' MAXIMUM STAGGERED SPACING ON LOCAL STREET (34', 36', OR 40' CURB TO CURB), PREFERRED. USE 140' MAXIMUM ONE-SIDE FOR HALF-STREET IMPROVEMENT.
2 100 WATT, TYPICAL.
3 PREFERRED LOCATIONS. (ONE INTERSECTION LIGHT MAY BE PLACED UP TO 20' FROM B.C.R. OR E.C.R.).
4 ALTERNATE LOCATION.
5 AVOID PLACING LIGHTS IN THIS AREA. CONSULT OUR STREET LIGHTING SECTION PRIOR TO PLACING LIGHT WITHIN THIS AREA.
5 ONE LIGHT ON EACH STREET AT INTERSECTION TO PROVIDE TWICE MID-BLOCK ILLUMINATION AS RECOMMENDED BY I.E.S.

Figure 7



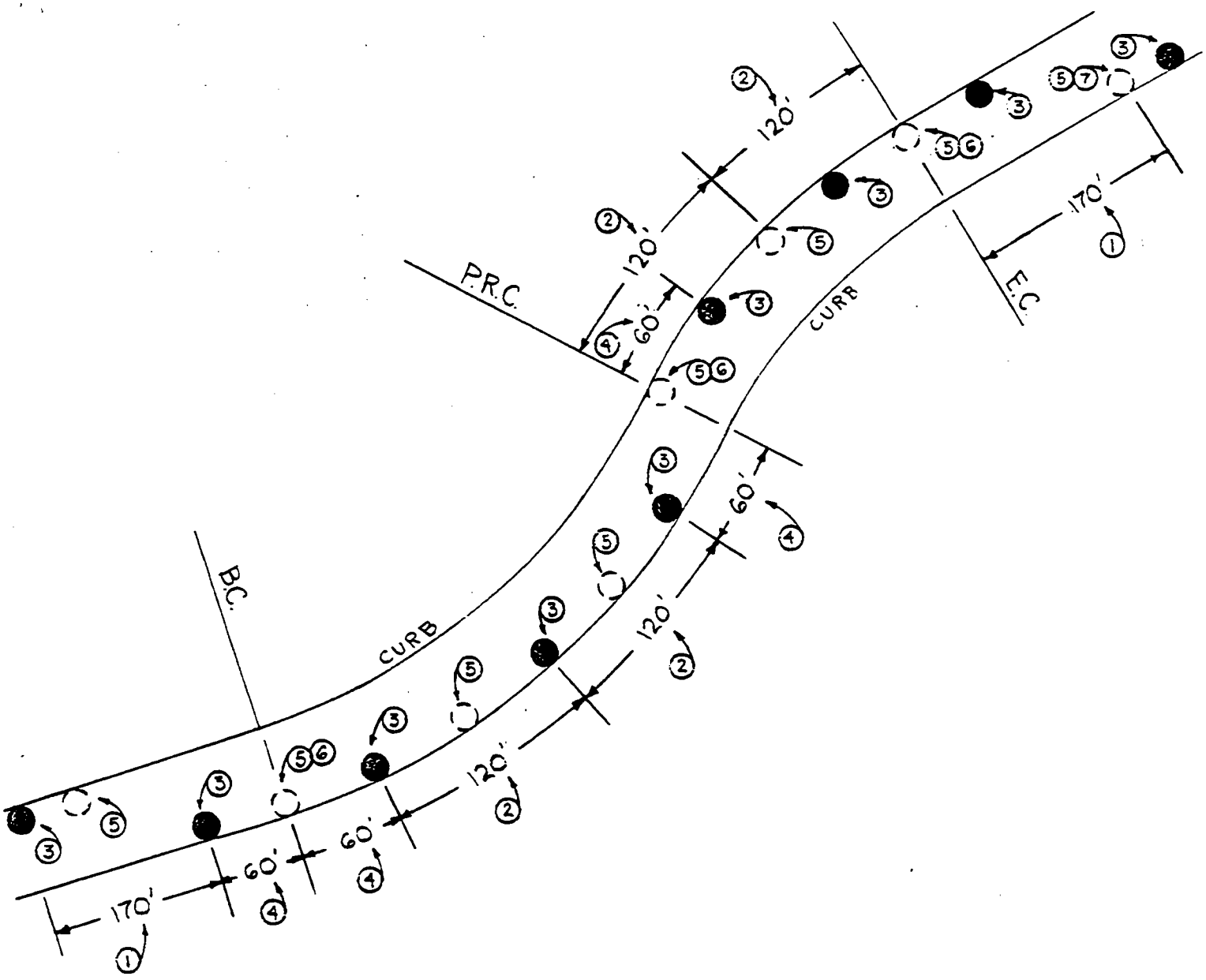
1 170' MAXIMUM STAGGERED SPACING ON LOCAL STREET (34', 36', OR 40' CURB TO CURB), PREFERRED. USE 140' MAXIMUM ONE-SIDE FOR HALF-STREET IMPROVEMENT.
2 REDUCED SPACING FROM INTERSECTION LIGHT TO FIRST MID-BLOCK LIGHT DUE TO CURVATURE OF ROADWAY AS RECOMMENDED BY I.E.S.
3 100 WATT, TYPICAL.
4 PREFERRED LOCATION (ONE INTERSECTION LIGHT MAY BE PLACED UP TO 20' OUTSIDE OF CURB PROLONGATIONS.).
5 ALTERNATE LOCATION. USE BOTH PREFERRED OR BOTH ALTERNATE LOCATIONS ON EACH STREET.
6 ONE LIGHT ON EACH STREET AT INTERSECTION TO PROVIDE TWICE MID-BLOCK ILLUMINATION AS RECOMMENDED BY I.E.S.
7 AVOID PLACING LIGHT IN THIS AREA. CONSULT OUR STREET LIGHTING SECTION PRIOR TO PLACING LIGHT WITHIN THIS AREA

Figure 8



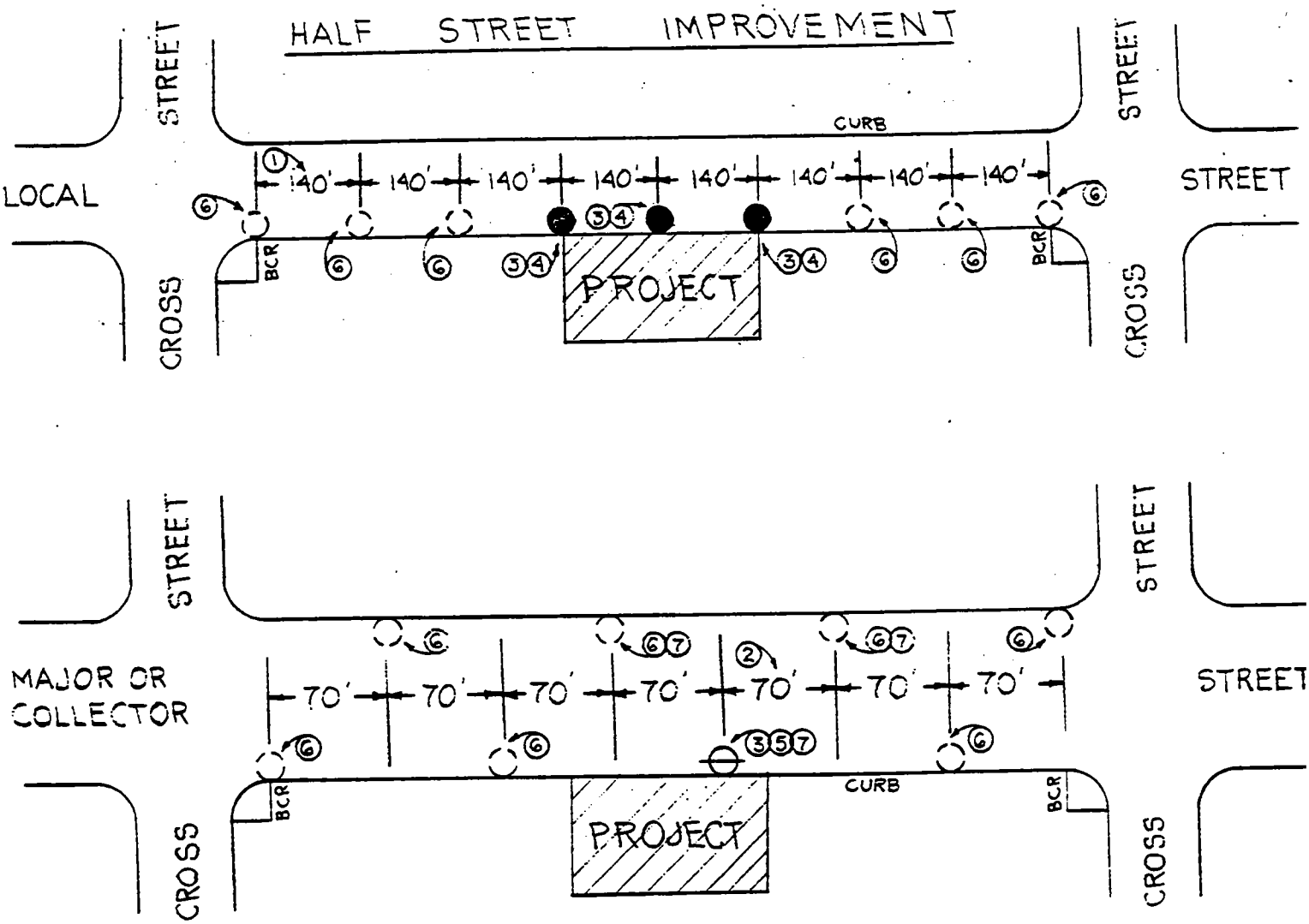
1 170' MAXIMUM STAGGERED SPACING ON LOCAL STREET (34', 36', OR 40' CURB TO CURB), PREFERRED. USE 140' MAXIMUM ONE-SIDE FOR HALF-STREET IMPROVEMENT.
2 REDUCED SPACING FROM CUL-DE-SAC LIGHT TO FIRST MID-BLOCK LIGHT DUE TO CURVATURE OF ROADWAY AS RECOMMENDED BY I.E.S.
3 PREFERRED LOCATION.
4 ALTERNATE LOCATION. USE ALL ALTERNATE LOCATIONS OR ALL PREFERRED LOCATIONS.
5 100 WATT, TYPICAL.
6 AVOID PLACING LIGHTS IN THIS AREA.

Figure 9



1 170' MAXIMUM STAGGERED SPACING ON TANGENTS ON LOCAL STREET (34', 36', OR 40' CURB TO CURB), PREFERRED. USE 140' MAXIMUM FOR ONE SIDE IMPROVEMENT.
2 120' MAXIMUM SPACING ON OUTSIDE OF CURVE WHERE R ≤ 700', TYPICAL.
3 PREFERRED LOCATION.
4 PREFERRED LOCATIONS SYMMETRICAL ABOUT BC, PRC AND EC CURVE SPACING EXTENDS TO FIRST LIGHT ON TANGENT.
5 ALTERNATE LOCATION. USE ALL PREFERRED LOCATIONS OR ALL ALTERNATE LOCATIONS.
6 PLACE LIGHTS ON BC, PRC, AND EC.
7 100 WATT, TYPICAL.

Figure 10



1 140' MAXIMUM ONE-SIDE SPACING ON LOCAL STREET (34', 36', OR 40' CURB TO CURB), TYPICAL.
2 140' MAXIMUM SPACING ONE SIDE HALF-SYSTEM (70' MAXIMUM STAGGERED SPACING) ON MAJOR (84' CURB TO CURB) OR COLLECTOR (64' CURB TO CURB), TYPICAL.
3 PROPOSED LIGHT(S).
4 100 WATT, TYPICAL.
5 200 WATT ON MAJOR OR 150 WATT ON COLLECTOR, TYPICAL.
6 FUTURE (DO NOT SHOW ON LAYOUT) OR EXISTING (SHOW ON LAYOUT) LIGHTS FROM PROJECT BOUNDARY TO ADJACENT CROSS STREETS TO VERIFY THAT PROPOSED LIGHTS WILL FIT CONTINUOUS SYSTEM. IF DISTANCES ARE TOO LONG TO BE SHOWN TO SCALE, LAYOUT SHALL INCLUDE "NO SCALE" MAP (OR HARD-COPY) INDICATING DISTANCES TO CROSS STREETS AND LOCATIONS OF FUTURE AND EXISTING LIGHTS.
7 PLACE PROPOSED LIGHTS MIDWAY BETWEEN EXISTING LIGHTS ON STEEL OR CONCRETE POLES TO MAINTAIN STAGGERED SYSTEM (CONSULT STREET LIGHTING SECTION IF STAGGERED SPACING EXCEEDS 70'. PROPOSED LIGHT LOCATIONS SHALL BE INDEPENDENT OF EXISTING LIGHTS ON WOOD POLES.)

Figure 11

PREFERRED STREET LIGHT LOCATIONS

It should be emphasized that the street light placements and spacings depicted on Figures 2 through 22 reflect the maximum calculated spacings that will provide the minimum recommended illumination levels. These spacings will frequently need to be reduced due to block lengths, driveways, catch basins, and other constraints. When the locations of the proposed street lights have been determined, they shall be dimensioned from the nearest B.C.R., E.C.R., or lot line. On streets which will be abutted by rear walls or fences such as major and secondary highways, the distances between adjacent street lights shall also be dimensioned. An acceptable alternative method of locating proposed street lights is the use of stationing.

DESIGN REFERENCES

1. "American National Standard Practice for Roadway Lighting" (ANSI/IES RP-8, 1977) available from the Illuminating Engineering Society, 345 East 47th Street, New York, NY 10017.

2. General Electric Photometric Data No. 35-175819 (200 watt - 30' mounting heights).

3. General Electrical Photometric Data No. 35-176552 (150 watt - 30' mounting height 100 watt - 25' mounting height).

UNDERGROUNDING

The State of California Public Utilities Commission issued directives in November 1969 and May 1970, that provide:

1. That underground wiring "should be standard for all extensions";

2. That "undergrounding should be mandatory for all new residential subdivisions".

These directives require electrical lines to be placed underground along all streets.

Section 4. Section 21.44.075 is added to Title 21 of the Los Angeles Code to read:

21.44.075 STREET LIGHTING PLAN CHECKING FEES. A. Where plans for a street lighting system are required to be submitted to the Road Commissioner for a parcel or tract map under the provisions of the Subdivision Map Act, the subdivider shall pay a plan checking fee to the Road Commissioner in addition to all other fees required by law. These fees, payable upon submission of plans for checking to the Road Commissioner, shall be based on the number of street lights as follows:

Number of Street Lights	Fee
0 - 15	$500.00
16 - 75	$900.00
76 and over	$1,500.00

76L265

LOS ANGELES COUNTY LETTERGRAM

To:_____ From_____ Date_____

Subject_____

Enclosed are review print(s) for subject project showing changes to be made.

Please submit and/or show information for the following items marked (X).

(X) 1. Return the review prints. Any review print(s) returned after three months from the date shown above will be treated as first check and will be subject to a Plan Check Fee.

( ) 2. Engineer's signature/stamp/expiration date on tracing.

( ) 3. Original tracing(s). Tracings exceeding maximum size (2' x 3') will not be accepted. Also, tracings shall be either paper or plastic coated linen. No sepia will be accepted.

( ) 4. Two sets of blue prints.

( ) 5. Conditions of approval.

( ) 6. Copies of Tract/Parcel Map or plan showing area being developed.

( ) 7. Show lot or parcel numbers.

( ) 8. Copies of plot plan showing driveway locations.

( ) 9. Copies of street improvement plans.

( ) 10. Scale used not acceptable.

( ) 11. Spacing between proposed lights and dimension lights from nearest reference point or line, such as BCR, BC, Lot Line.....

( ) 12. Distances between existing lights and map boundary lines and/or property lines.

( ) 13. Show and/or verify existing lights field checked by you.

( ) 14. Show general notes/key map/vicinity map/north arrow/design criteria.

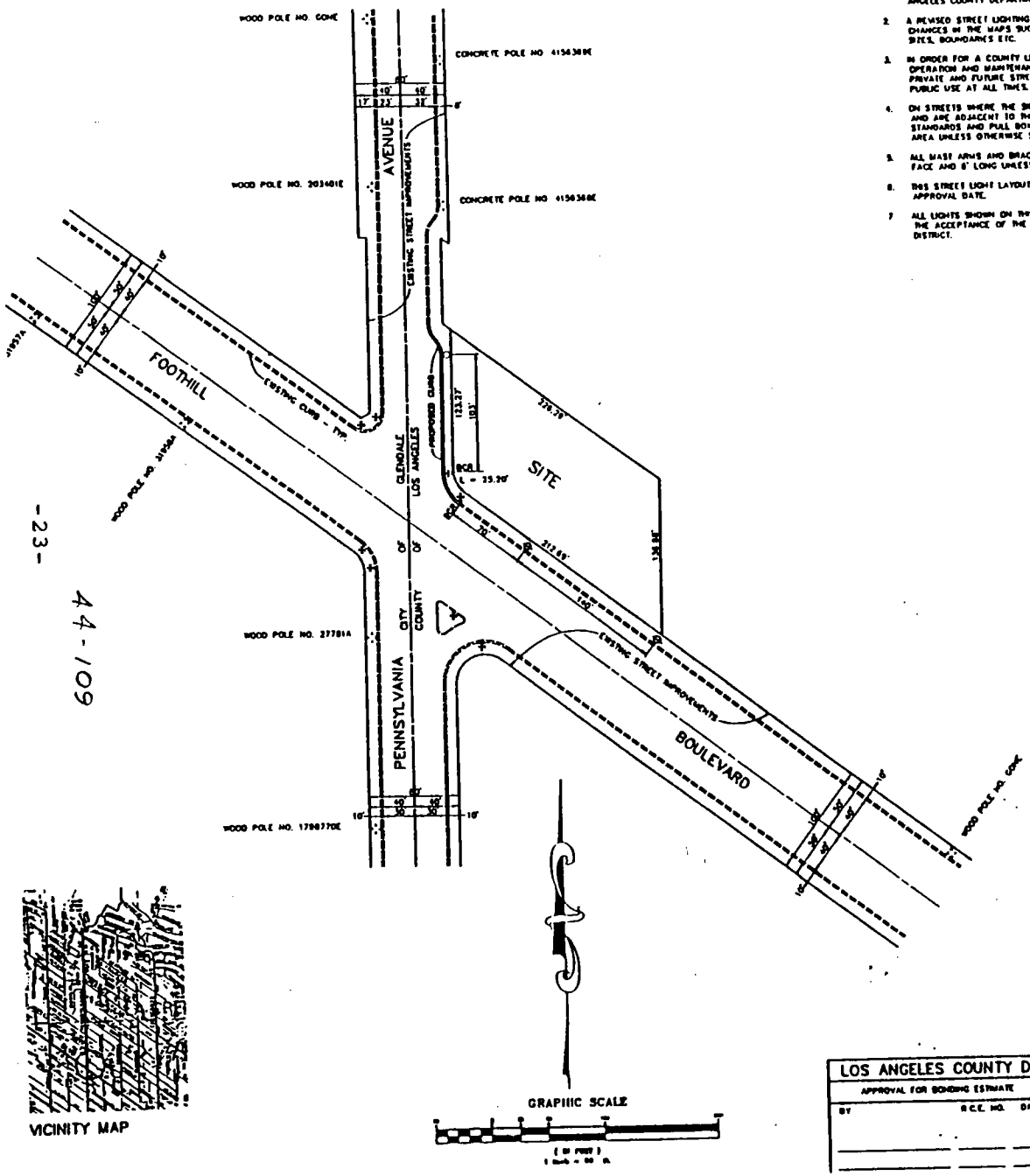
( ) 15. Show legend and use our standard symbols. See attached sheet.

( ) 16. Copy of City and/or County traffic signal plans (existing/proposed).

( ) 17.

If you have any questions regarding your subject plans, please call our Street Lighting Section at (818) 458-5926.

44-110



VICINITY MAP

GRAPHIC SCALE

GENERAL NOTES FOR STREET LIGHTING LAYOUT

1. A LIGHT LOCATION MAY BE ADJUSTED A MAXIMUM OF 10' ONLY TO AVOID AN OBSTRUCTION SUCH AS DRIVEWAY, CATCH BASIN, ETC., ANY DEVIATION EXCEEDING 10' SHALL HAVE PRIOR APPROVAL OF THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS.
2. A REVISED STREET LIGHTING LAYOUT SHALL BE REQUESTED FOR ANY CHANGES IN THE MAPS SUCH AS STREET ALIGNMENTS, LOT OR PARCEL SIZES, BOUNDARIES ETC.
3. IN ORDER FOR A COUNTY LIGHTING DISTRICT TO ASSUME THE OPERATION AND MAINTENANCE FOR THE LIGHTING SYSTEM ON ANY PRIVATE AND FUTURE STREET, THE STREET SHALL BE OPEN TO GENERAL PUBLIC USE AT ALL TIMES.
4. ON STREETS WHERE THE SIDEWALKS ARE FIVE FEET OR LESS IN WIDTH AND ARE ADJACENT TO THE CURB, THE STREET LIGHTING ELECTROLIER STANDARDS AND PULL BOXES SHALL BE PLACED OUTSIDE THE SIDEWALK AREA UNLESS OTHERWISE SPECIFIED.
5. ALL MAST ARMS AND BRACKETS SHALL BE PERPENDICULAR TO THE CURB FACE AND 8' LONG UNLESS OTHERWISE SPECIFIED
6. THIS STREET LIGHT LAYOUT EXPIRES TWO YEARS AFTER THE LATEST APPROVAL DATE.
7. ALL LIGHTS SHOWN ON THIS LAYOUT SHALL BE ENERGIZED PRIOR TO THE ACCEPTANCE OF THE LIGHTING SYSTEM BY A COUNTY LIGHTING DISTRICT.

LEGEND

- PROP. 5,800 LUMEN 70 WATT H.P.S. LAMPS ON CONCRETE POLES
- PROP. 9,500 LUMEN 100 WATT H.P.S. LAMPS ON CONCRETE POLES
- O PROP. 16,000 LUMEN 150 WATT H.P.S. LAMPS ON CONCRETE POLES
- PROP. 22,000 LUMEN 200 WATT H.P.S. LAMPS ON CONCRETE POLES
- PROP. 27,500 LUMEN 250 WATT H.P.S. LAMPS ON CONCRETE POLES

Light approved per adjacent development. Indicate Tract Number, Parcel Map Number, C.U.P., _____

Proposed light shown on a different sheet.

Existing Street Light. Type of pole, size of lamp and pole number as indicated. Field checked by David R. Gray, Inc.

Proposed Highway Safety Light (HSL) - Lights on Signal Standards

Existing Highway Safety Light (HSL) - Lights on Signal Standards

Existing Caltrans Light

Existing _____ Lumen Light on _____ pole to be removed/relocated.

Existing _____ Lumen Light on _____ pole to be upgraded to _____ Lumen Light.

Existing _____ Lumen Light on _____ pole to be downgraded to _____ Lumen Light.

THE FOLLOWING ARE BASED ON I.E.S. DESIGN CRITERIA

THE 5,800 LUMEN POLE SPACING IS BASED ON 0.4 FOOTCANDLE FOR LOCAL RESIDENTIAL STREETS THE LUMINAIRE SHALL HAVE A 25 FOOT MOUNTING HEIGHT. THE LUMINAIRE SHALL BE (A.N.S.I.-I.E.S.) MEDIUM FULL CUTOFF, TYPE III AND EQUIPPED WITH 70 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THE 9,500 LUMEN POLE SPACING IS BASED ON 0.4 FOOTCANDLE FOR LOCAL RESIDENTIAL STREETS THE LUMINAIRE SHALL HAVE A 25 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM FULL CUTOFF, TYPE III AND EQUIPPED WITH 100 WATT HIGH PRESSURE SODIUM VAPOR LAMP.

THE 16,000 LUMEN POLE SPACING IS BASED ON 0.9 FOOTCANDLE FOR COLLECTOR INTERMEDIATE STREETS THE LUMEN SHALL HAVE A 30 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM FULL CUTOFF, TYPE III AND EQUIPPED WITH 150 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THE 22,000 LUMEN POLE SPACING IS BASED ON 1.4 FOOT FOOTCANDLE FOR MAJOR INTERMEDIATE STREETS THE LUMINAIRE SHALL HAVE A 30 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM SEMI-CUTOFF, TYPE III AND EQUIPPED WITH 200 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THE 27,500 LUMEN POLE SPACING IS BASED ON 1.4 FOOTCANDLE FOR HIGHWAY/COLLECTOR INTERMEDIATE THE LUMINAIRE SHALL HAVE A 30 FOOT MOUNTING HEIGHT, SHALL BE (A.N.S.I.-I.E.S.) MEDIUM SEMI-CUTOFF, TYPE III AND EQUIPPED WITH 250 WATT, HIGH PRESSURE SODIUM VAPOR LAMP.

THOMAS BROS. MAP PAGE 11 COORDINATES D6

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS						STREET LIGHTING LAYOUT
APPROVAL FOR BONDING ESTIMATE			APPROVAL FOR INSTALLATION BY SOUTHERN CALIFORNIA EDISON			COUNTY OF LOS ANGELES
BY	R.C.E. NO.	DATE	BY	R.E. NO.	DATE	OWNER: / PREPARED BY: / SHEET OF SHEETS

-23-

44-109

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

STREET NAME SIGN SPECIFICATIONS

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

4/17/89

HIGH INTENSITY REFLECTIVE STREET NAME SIGN SPECIFICATIONS

I. SCOPE

These specifications cover high intensity retroreflective sheeting on aluminum for street name signs, required by the County of Los Angeles during the contractual period, which are to be delivered when and as requested.

II. GENERAL

A. Street name signs shall be double faced with silver legend on blue background, consisting of name signs and block number signs, side arm mounting brackets for mounting by strapping or bolts, and other required accessories (except fastening straps or bolts which will be furnished by the County).

B. The units shall be completely reflectorized of high intensity sheeting with street name, border and block number reverse screened. Or when cutout letters are used, the units shall be completely reflectorized of high intensity sheeting with the exception of the borders, which may be engineering grade sheeting. Whichever method is used, both the street name blade and the block number blade shall be of similar manufacture.

C. The units shall be blade type.

D. Any sign delivered under this contract which does not conform to these specifications shall be replaced by the vendor at no further cost to the County.

E. The County of Los Angeles reserves the right to reject any or all signs not manufactured in a neat and workmanlike manner.

F. The sign shall consist of an 8" aluminum street name blade with bracket, or an 8" aluminum street name blade and a 4-1/2" aluminum block number blade with bracket.

G. "Message length" shall be known as both end margins, all letters, spacing between letters and spacing between words and/or numbers as specified herein.

III. LETTERS, WORDS AND NUMERALS

A. The spacing of letters, words and numerals on the signs shall be as follows:

1. Spacing of the upper and lower case "I" and "L" are to be treated as only half a space. The spacing of the upper and lower case "M" and "W" are to be treated as one and a half spaces.

2. The message shall be mathematically centered in the visible portion of the sign blank.

3. The spacing between words shall be approximately 3" except numbered streets shall have a maximum spacing of 4-1/2" such as between 1st and Street and a minimum spacing of 2-1/2" such as between 222nd and Street. Spacing between lettered streets shall be a maximum of 5". This is to comply with the mathematical centering as indicated in Paragraph III.A.2.

4. All signs shall be furnished in standard message lengths of 23, 29, 35, or 41 inches which includes letter widths and spacing between words and end spacing. The required sign length for any message shall be calculated from the above instructions, using the dimensions on the charts for spacing. The blade shall be 1" longer than the message length to compensate for the area covered by the bracket, e.g., 24, 30, 36, or 42 inches.

   a. When letter or numerical spacing requires more than 41" message length, the suffix shall be 2" series C, capital letters. The bottom line of the 2" letters shall be 2-1/2" above the common bottom line of the 4-1/2" upper case letters.

   b. When necessary, the spacing between words may be reduced from 3" to 2-1/2".

   c. The end spacing shall be 1". The end border is not a part of the end spacing.

   d. The end spacing may be reduced from 1" to 3/4". Further reductions, when required, will only be allowed on a modified 42" message where it would be necessary to go into a double sign unless the reduction was made. No message lengths shall be shorter than 23" or longer than 41". Where the total message length exceeds 42" and cannot be condensed into 41", the message shall be divided into two signs, one over the other.

5. The block number message length shall always be 15". The blade shall be 16" in length to compensate for the area covered by the bracket.

6. All allowable reductions shall be made to fit the message into the shortest possible message length.

B. The lettering size and wording shall be as follows:

   1. The lettering used for street name signs shall be as shown on the attached sheet.

   2. Words that shall be abbreviated are shown on the attached list of abbreviations. Periods shall not be used.

3. The street name message is to be composed of 4-1/2" upper case letters and numerals and 3-3/8" lower case letters. The block number message is to be composed of 3" upper case numerals and letters.

IV. DETAILED REQUIREMENTS

A. Metal

1. The base metal shall be new aluminum single sheet stock of alloy and temper designation 6061 T6; shall be free of all corrosion, white rust and dirt; thickness shall be 0.125 inches; and other dimensions shall be as indicated on the given plan or order.

   If the alloy 6061 T6 is demonstrated to be unavailable, the vendor, with the prior approval of the Public Works Department, may use another acceptable alloy. To be acceptable an alloy must have recently been in satisfactory use by a major public agency responsible for highway signing in the Los Angeles County area.

2. The vendor must furnish to the Public Works Department mill certification of the aluminum alloy and heat treatment of each delivery of signs. Stock utilized in fulfilling this contract shall be subject to inspection by a Public Works Department representative prior to the degreasing operation. Failure to comply with either of these requirements will be considered cause for rejection.

3. Fabrication of all metal parts shall be accomplished in a uniform and workmanlike manner. All fabrication, including shearing, cutting, and punching of holes shall be completed prior to metal degreasing and application of reflective sheeting. Reflective sheeting shall be applied to the aluminum panels within 48 hours after the completion of the surface preparation. Any deviation from this practice must be approved in advance by the Public Works Department. Metal panels shall be free of buckles, warps, dents, cockles, burrs and defects resulting from fabrication. The surface of all sign panels shall be flat. The edges of all panels shall be beveled or feathered so faces will not delaminate at edges.

4. The aluminum sheets shall be cleaned, deoxidized and conversion treated in accordance with the manufacturer's specifications.

5. The aluminum base sheets shall be treated with a chromate conversion coating. The coating shall be applied according to the manufacturer's specifications. The base metal pretreatment process shall be in conformance with Section 5, "Recommended Processing Methods" of ASTM Designation: B449. The coating weight shall be Class 2 (10-34 mg/sq. ft.) with a median of 25 mg/sq. ft. as the optimum coating weight. All treatment tanks shall provide for total immersion of the panels. Titration equipment shall be available for the inspector's use to check the strength of solutions. Solution strengths shall not vary more than 10% from the manufacturer's recommendations. All treatment tanks shall be emptied and recharged with fresh chemicals at least once annually. The conversion treatment shall produce a golden iridescent coating that is light, tight and completely free of any powdery residue. The treatment shall match in color and coating sample plates provided by the County. Other methods of treatment may be acceptable provided that they are first approved by the County Department of Public Works.

6. Cleaned metal shall be handled only by device or clean canvas gloves between all cleaning and coating operations and the application of reflective sheeting. There shall be no opportunity for metal to come in contact with dust, greases, oils, or other contaminants prior to the application of reflective sheeting.

B. Strength

The complete sign and bracket assembly, including 42-inch length signs, and signs in two lines, shall be capable of withstanding the following loads without chipping or cracking of the finish and with no permanent deformation of the sign or bracket:

1. Wind Load

A sustained uniform load of 27 pounds per square foot of horizontal surface applied normal to the horizontal surface (equal to 100 mph wind).

2. Dead Load

A concentrated load of 100 pounds sustained for five minutes applied to the top edge of the sign at a point 2/3 of the length of the sign out from the mounting edge of the sign.

C. Appearance and Size

In accordance with attached drawing.

D. High Intensity Retroreflective Sheeting

1. Description

The reflective sheeting shall consist of spherical lens elements adhered to a synthetic resin and encapsulated by a flexible, transparent, weatherproof plastic having a smooth outer surface. The sheeting shall have a precoated adhesive backing protected by a plastic liner. The sheeting shall be silver-white or blue in color for background. When silver-white sheeting is used, the legend and border shall be reverse screened with 3M's Scotchlite Brand 883 blue process color, or equal, that is acceptable to the sheeting manufacturer.

When blue sheeting is used, the legend shall be of cutout letters from silver-white encapsulated lens sheeting. The borders shall be cutout of white enclosed lens sheeting.

Signs ordered blank shall be made of blue encapsulated lens sheeting.

2. Requirements

a. Reflective Intensity (After Sign Fabrication)

The reflective sheeting shall have the following minimum brightness values at 0.2 and 0.5 degree divergence expressed in candelas per foot candle per square foot (candelas per lux per square meter) of material. Measurements shall be conducted in accordance with California Test Method No. 642.

TABLE I - MINIMUM BRIGHTNESS VALUES

Blue

Div. Angle / Inc. Angle	.2	.5
-4	20.0	7.5
+30	11.0	5.0

White Base Sheeting

Div. Angle / Inc. Angle	0.2	0.5
-4	250.0	95.0
+30	150.0	65.0

Rainfall performance measurements shall be conducted in accordance with standard rainfall test specified in Federal Highway Administration Specification FP-79, Section 718.01 (6) (1) and the brightness of the reflective sheeting totally wet by rain, shall not be less than 90% of the above values.

b. Color

The diffuse day color of the reflective sheeting shall conform to the requirements of Table II and shall be determined in accordance with ASTM E 97-55 (1971 or latest) "STANDARD METHOD OF TEST FOR 45-DEG. 0-DEG. DIRECTIONAL REFLECTANCE OF OPAQUE SPECIMENS BY FILTER PHOTOMETRY." (Geometric characteristics must be confined to illumination incident with 10 deg. of and centered about, direction 45-deg. from the perpendicular to the test surface; viewing is within 15 deg. of and centered about the perpendicular to the test surface. Conditions of illumination and observation must not be interchanged.) The standards to be used for reference shall be the MUNSELL PAPERS designated in Table II. Papers must be recently calibrated on a spectrophotometer.

The test instrument shall be one of the following:

1. GARDNER Multipurpose Reflectometer
2. GARDNER Model AC-2a Color Difference Meter
3. MEECO Model V Colormaster
4. HUNTERLAB D25 Color Difference Meter

TABLE II - CIE CHROMATICITY COORDINATE LIMITS

						(Y) Reflectance Limit			
Color	x	y	x	y	x	y	x	y	Min.	Max.	MUNSELL PAPER	
Blue	.144	.030	.244	.202	.190	.247	.066	.208	1.0	10.0	5.8PB	1.32/6.8

c. Adhesive

1. The reflective sheeting shall include a precoated pressure sensitive adhesive or a tack free heat activated adhesive either of which shall be applied exactly as specified by the sheeting manufacturer to a properly prepared flat surface without necessity of additional adhesive coats on the reflective sheeting or application surface.

d. Field Performance Requirements

1. High intensity retroreflective sheeting processed and applied to sign blank materials in accordance with sheeting manufacturer's recommendations, shall perform effectively for the number of years stated in Table III of this specification. The retroreflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retroreflection is less than the minimum specified for that sheeting during that period listed in Table III.

   Ineffectiveness shall be determined by viewing signs from a distance of 30 feet. Signs at this distance shall be without visible defects. Specific evidence of ineffectiveness under this condition shall include loss of color, flaking, powdering, cracking, wrinkling, crazing, corrosion or other defects. When signs are viewed at night at a distance of 30 feet, there shall be no visible difference in reflectivity between letters and/or numerals on the same sign.

TABLE III
Minimum Coefficient of Retroreflection
Candelas per Foot Candle per Sq. Ft.
(.2 deg. obs. and -4 deg. entrance)

Sheeting Color	Minimum Coefficient of Retro. (Seven Years)	Minimum Coefficient of Retro. (Ten Years)
White	212	200
Yellow	144	136
Green	38	36
Red	38	36
Blue	17	16

2. All measurements shall be made after sign is cleaned according to sheeting manufacturer's recommendations.

3. For screenprinted transparent colored areas on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for the corresponding color in the above table.

e. Sheeting Manufacturer's Replacement Obligation

1. Where it can be shown that high intensity retroreflective signs with sheetings supplied and used according to the sheeting manufacturer's recommendations have not met field performance requirements of Section IV.D.2.d, the sheeting manufacturer shall cover restoration costs as follows for sheetings shown to be unsatisfactory during:

The entire ten years: the sheeting manufacturer will replace the sheeting required to restore the sign surface to its original effectiveness. In addition, during the first seven years: the sheeting manufacturer will cover the cost of restoring the sign surface to its original effectiveness at no cost to the County for materials or labor.

f. Qualification

Sheeting used on signs shall have been evaluated and found by California Department of Transportation to comply with their specification for reflective sheeting on aluminum signs dated June 1985.

E. Construction

1. Blade Structure, Flat

a. The Flat Blade Structure shall include a street name blade and a block number blade, both mounted in a bracket, as shown on attached drawing. Blade shall fit tight in bracket without any side-to-side movement.

b. Preparation of metal prior to application of sheeting shall be as stated in IV.A.

c. A completed sample of a street name sign constructed per these specifications shall be submitted before the first order from the County. Signs not conforming in all respects to the requirement of these specifications will be rejected.

F. Fasteners

All fasteners shall be tamper resistant and shall be aluminum. Other materials may be used for fastening, providing they are resistant to the elements, will not cause electrolytic action between different adjoining materials, and will not reduce the strength or expected life of the assembled name signs. Three fasteners shall be used to attach street name sign blades of 35" and 41" message lengths to bracket.

G. Application of Sheeting

The sample submitted and all signs delivered under the contact shall have the sheeting completely smooth with no wrinkles, cracking, crazing or blistering. Application procedures shall be as specified by the sheeting manufacturer.

H. Identification

Each street name and each block number unit shall be identified and dated by including the following number in 3/16" letter screened in the lower border 3" from the mounting end:

1. L.A. Co.
2. The number of the month and year separated by a slash

I. Flatness

The surface of the blade shall be flat to within ±.05" tolerance. The measurement shall be taken on the web section of the blade sign.

V. DELIVERY, INSPECTION AND GUARANTEE

A. Delivery

1. Each sign will be fully assembled, ready for installation by the County and individually wrapped prior to packaging. Wood or cardboard containers acceptable to common carrier shall be used, not exceeding 48" in width or 48" in depth or 60" in height. No container or carton shall exceed 3,000 pounds gross. Containers or cartons shall be made so that they can be handled by a forklift.

2. Signs shall be packaged, stored on edge and kept dry per sheeting manufacturer's specifications. Signs shall be packaged in such a way that they can be easily identified without removing the packaging.

3. Each carton or container shall have affixed at time of delivery, an envelope containing a packing slip. The packing slip shall list the street name and block number of each sign therein.

4. The County of Los Angeles will furnish an alphabetical list with each order.

5. All signs shall be shipped per sheeting manufacturer's recommendations in containers or cartons in such a manner as to insure delivery in perfect condition.

6. The signs shall be delivered to the Los Angeles County Department of Public Works Main Warehouse, 1537 Alcazar Street, Los Angeles, California 90033. In case of an emergency the County reserves the right to pick up limited quantities of signs at the vendor's plant or warehouse.

7. Vendor shall deliver signs in 30 calendar days or less from date of receipt of the order by the vendor.

B. Inspection

1. Signs delivered must comply in detail to the lettering, spacing, format and construction specified herein. Signs delivered will be subject to inspection by the County of Los Angeles Department of Public Works prior to final approval. Deviation from specification will be cause for rejection.

2. All signs delivered must be new, of top workmanship, without defects, or damage due to production or shipment. Incorrect spelling and numbering must be corrected at bidder's expense, if it is his error, within ten working days.

C. Guarantee

1. The vendor shall and hereby does warrant and guarantee that all work and material furnished under this order will be free from defects of materials and workmanship for a period of ten (10) years from date of posting; the vendor further agrees to repair or replace at his own expense, all such defective work and materials and all other work and materials damaged thereby, which become defective during the term of the above-mentioned guarantees or warranties. Vendor shall provide written warranty and warranty number from manufacturer of reflective sheeting.

2. All signs which are rejected for any reason shall be replaced at the vendor's expense within 3 weeks from the date of return, except within ten days as stated in Paragraph V. B. 2. The vendor shall assume all shipping charges both ways.

VI. CANCELLATION OF AGREEMENT

A. The County of Los Angeles reserves the right to cancel this agreement if:

1. The vendor fails to comply with the requirements of the specifications, or

2. Delivery is consistently beyond the time specified.

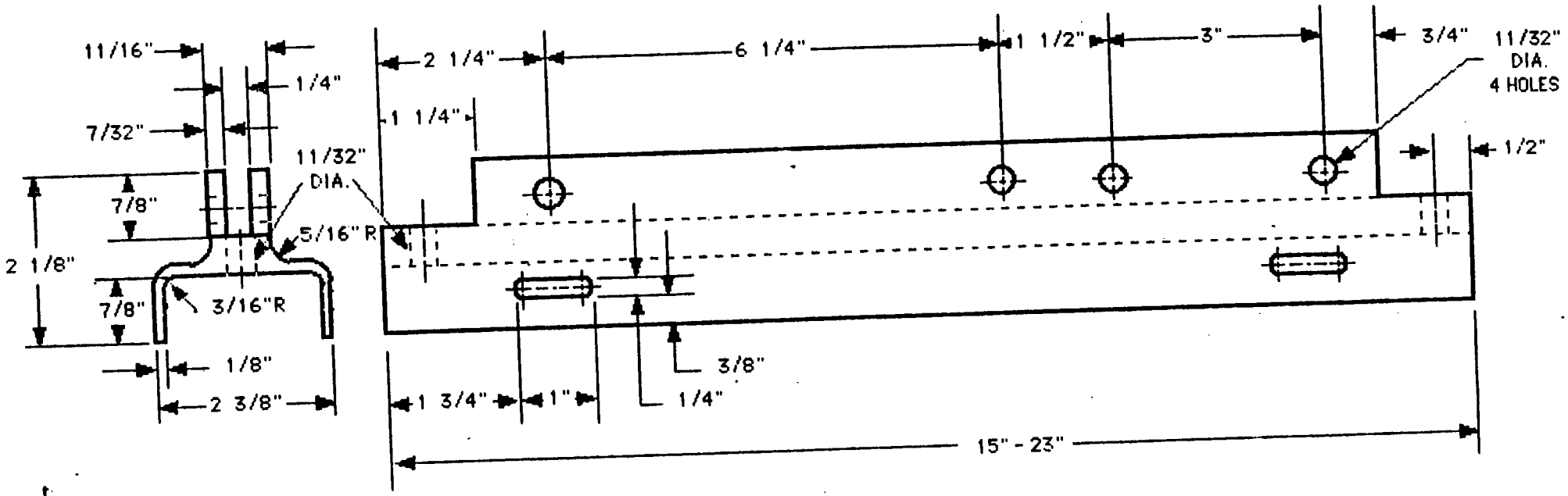
B. Upon cancellation due to unsatisfactory service or delivery (default), the County may procure the signs from other sources and may deduct from the unpaid balance due the vendor. The prices paid by the County of Los Angeles shall be considered the prevailing market price at the time of such purchase is made. The County of Los Angeles shall be sole judge as to satisfactory performance.

LIST OF ABBREVIATIONS

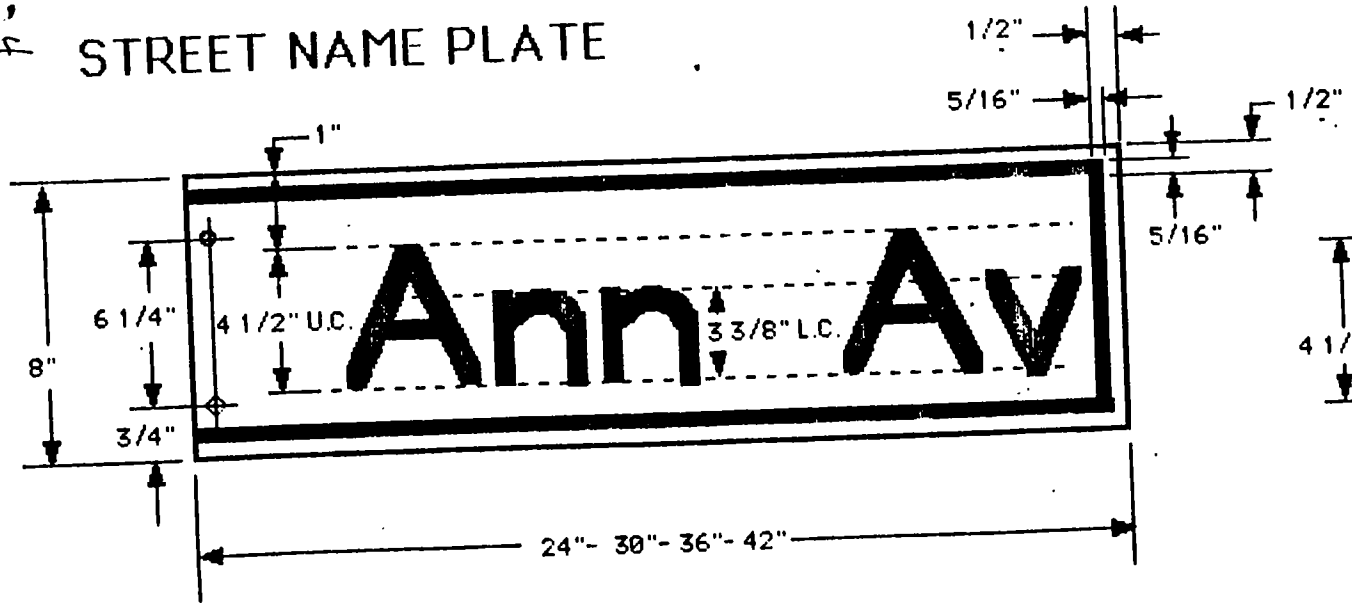
Avenue	Av
Boulevard	Bl
Canyon	Cyn
Circle	Cir
Court	Ct
Drive	Dr
Highway	Hwy
Lane	Ln
Park	Pk
Parkway	Pky
Square	Sq
Place	Pl
Road	Rd
Street	St
Terrace	Ter
Trail	Tr
Heights	Hts

specs:sns1

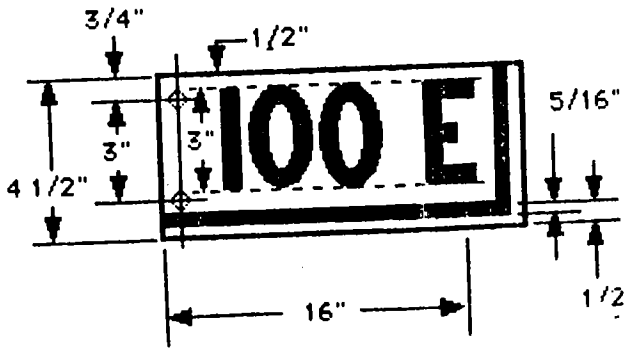
TYPE A BRACKET



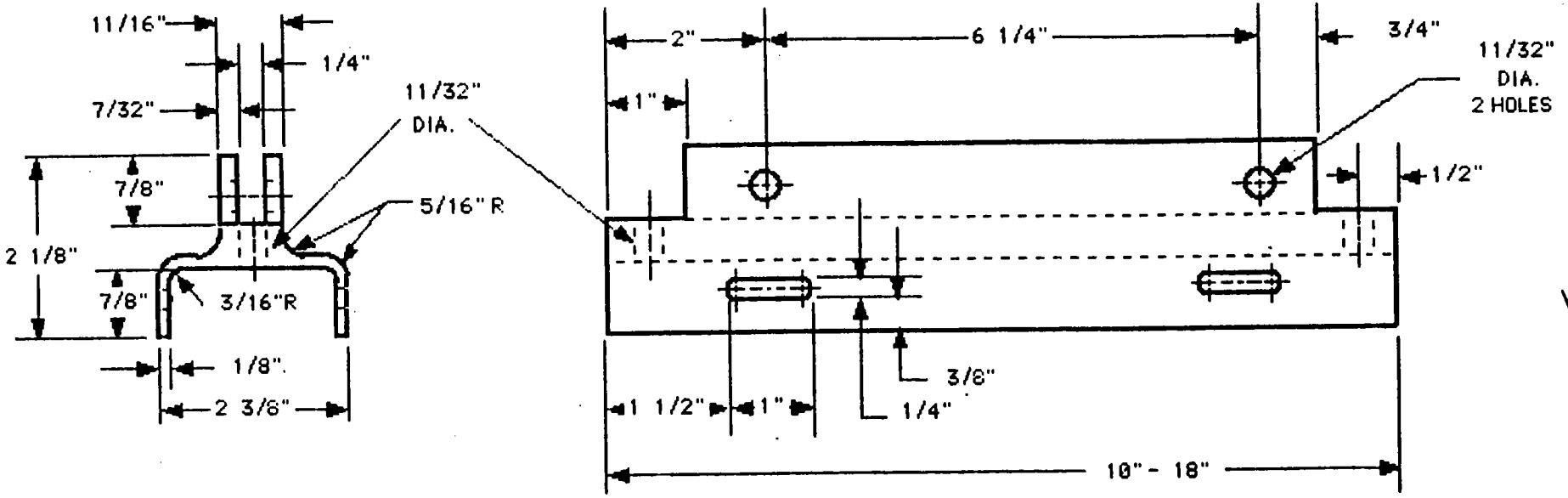
STREET NAME PLATE



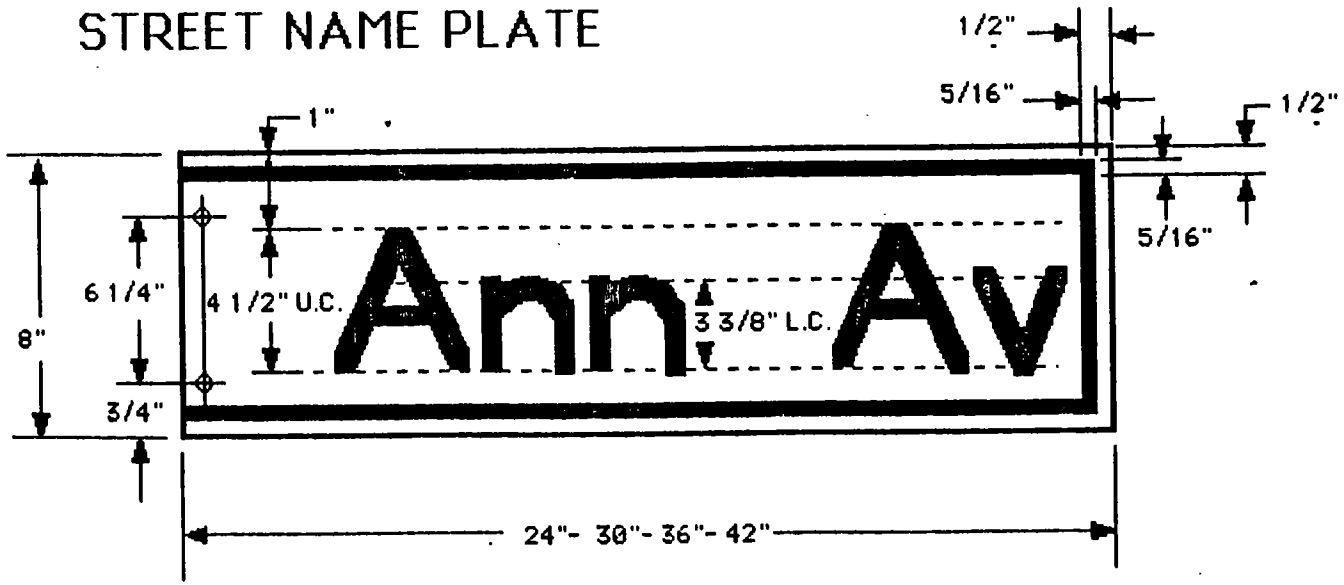
BLOCK NUMBER OR PRIVATE PLATE



TYPE B BRACKET



STREET NAME PLATE



BRACKET AND STREET NAME SIGN

NOTES:

1. STREET NAME AND BLOCK NUMBER PLATE SHALL BE ALUMINUM ALLOY 6061 T6, 0.125 INCH THICK.

2. STREET NAME AND BLOCK NUMBER PLATES SHALL BE COVERED WITH HIGH INTENSITY REFLECTIVE SHEETING.

3. STANDARD SHALL BE SILVER-WHITE LEGEND ON BLUE BACKGROUND.

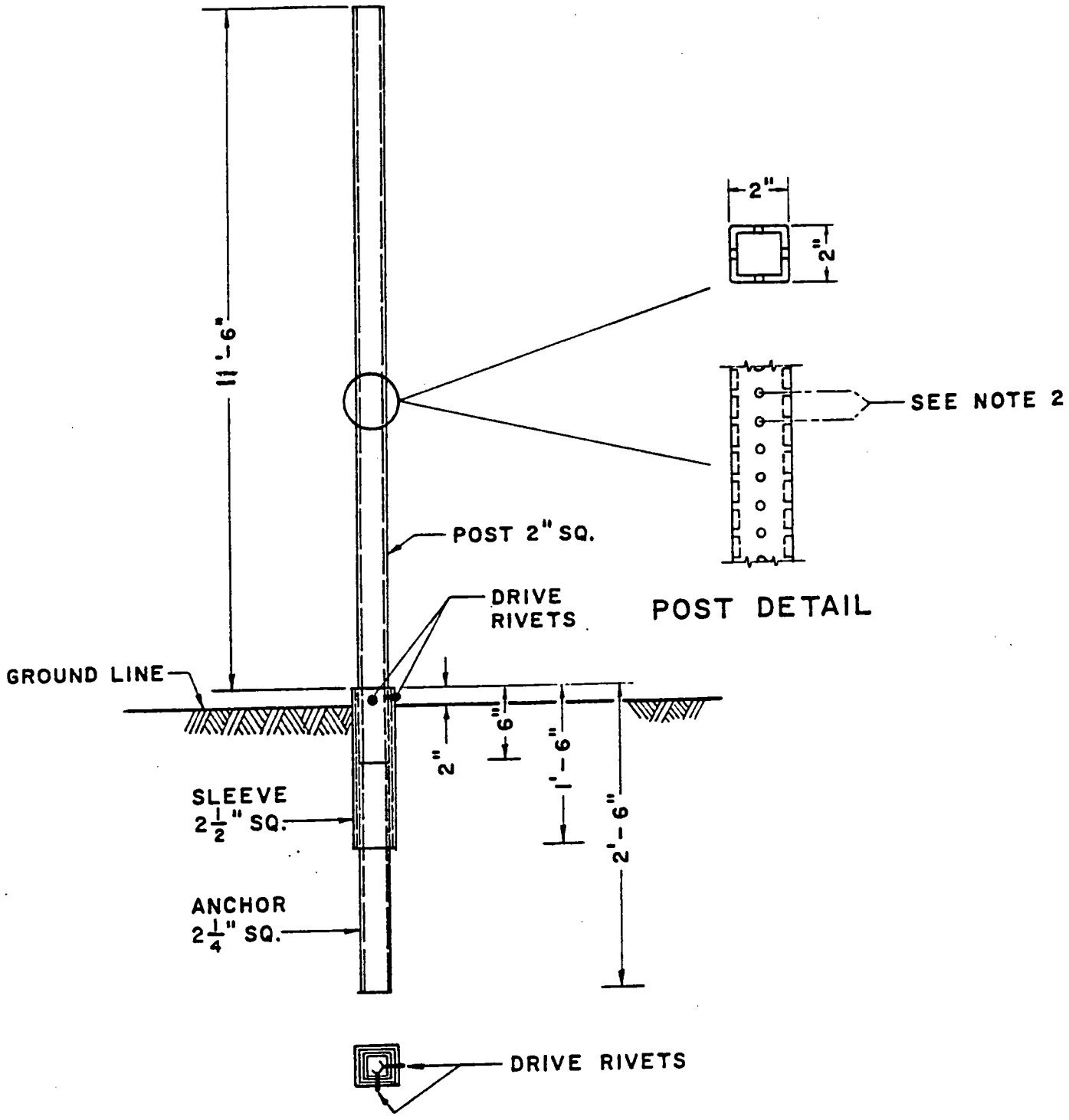
4. STREET NAME SHALL BE 4 1/2 INCHES UPPER CASE LETTERS AND NUMBERS AND 3 3/8 INCH LOWER CASE LETTERS. BLOCK NUMBER / PRIVATE PLATE SHALL BE 3 INCH UPPER CASE LETTERS AND NUMBERS.

5. MANUFACTURE OF SIGN TO BE PER LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS FOR HIGH INTENSITY REFLECTIVE STREET NAME SIGNS. VENDOR SHALL PROVIDE WRITTEN WARRANTY AND WARRANTY NUMBER FROM MANUFACTURER OF RELECTIVE SHEETING

6. TYPE A BRACKET - 15 INCHES LONG TO ACCOMMODATE BLADE AND BLOCK NUMBER PLATE.
   TYPE B BRACKET - 10 INCHES LONG TO ACCOMMODATE BLADE ONLY.
   2 LINE BRACKET - 18 INCHES OR 23 INCHES LONG TO ACCOMMODATE 2 BLADES WITH OR WITHOUT BLOCK NUMBER PLATE.

7. TWO FASTENERS (RIVETS) SHALL BE USED TO ATTACH STREET NAME SIGN BLADES OF 24 AND 30 INCH SIGNS TO BRACKET. THREE FASTENERS SHALL BE USED TO ATTACH STREET NAME SIGN BLADES OF 36 AND 42 INCH SIGNS TO BRACKET.

8. BLOCKS WITH 3 OR MORE HOUSES ON IT REQUIRES A TYPE A INSTALLATION, BLOCKS WITH LESS THAN 3 HOUSES REQUIRES A TYPE B INSTALLATION



REFLECTIVE STREET SIGN POST INSTALLATION

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS				DIVISION	
REF.	DRAWN BY J. P. Ong	CHECKED BY	RECOMMENDED BY	APPROVED	DRAWING NUMBER
SCALE NOT TO SCALE	DATE Nov. 10, 1987	DATE	DATE	DATE	

82-0009 DPW 6/85 (RD 629) STANDARD DRAWING FORM

STREET SIGN POST INSTALLATION

NOTES:

1. POST, ANCHOR, SLEEVE TO BE 12 GAUGE GALVANIZED STEEL WITH PERFORATIONS ALONG THE ENTIRE LENGTH, ON ALL 4 SIDES.
2. PERFORATIONS TO BE 7/16 INCH DIAMETER, 1 INCH ON CENTER LINE.
3. WHEN INSTALLING IN SOIL, ANCHOR AND SLEEVE SHOULD BE DRIVEN INTO SOIL TOGETHER, LEAVING A PROTRUSION OF 1 OR 2 INCH ABOVE GROUND.
4. POST, ANCHOR AND SLEEVE SHALL TELESCOPE FREELY.

SPACING BETWEEN TWO DIGIT NUMBERS

	1	2	3	4	5	6	7	8	9	0
1	1.60	1.50	1.50	1.25	1.50	1.50	1.25	1.52	1.50	1.45
2	1.40	1.30	1.30	1.05	1.30	1.30	1.05	1.32	1.30	1.25
3	1.40	1.30	1.30	1.05	1.30	1.30	1.05	1.32	1.30	1.25
4	1.35	1.25	1.25	1.00	1.25	1.25	1.00	1.27	1.25	1.20
5	1.40	1.30	1.30	1.05	1.30	1.30	1.05	1.32	1.30	1.25
6	1.40	1.30	1.30	1.05	1.30	1.30	1.05	1.32	1.30	1.25
7	1.15	1.05	1.05	.80	1.05	1.05	.80	1.07	1.05	1.00
8	1.42	1.32	1.32	1.07	1.32	1.32	1.07	1.34	1.32	1.27
9	1.40	1.30	1.30	1.05	1.30	1.30	1.05	1.32	1.30	1.25
0	1.35	1.25	1.25	1.00	1.25	1.25	1.00	1.27	1.25	1.20

CHART 1

SPACING BETWEEN LETTERS

.4 1/2" U.C. & 3 3/8" L.C.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A-	.51	.71	.56	.54	.56	.48	.56	.71	.71	.34	.71	.71	.71	.71	.56	.71	.51	.71	.42	.46	.71	.46	.48	.49	.48	.53
B-	.63	.83	.68	.66	.68	.60	.68	.83	.83	.46	.83	.83	.83	.83	.68	.83	.63	.83	.54	.58	.83	.58	.60	.61	.60	.65
C-	.57	.77	.62	.60	.62	.54	.62	.77	.77	.40	.77	.77	.77	.77	.62	.77	.57	.77	.48	.52	.77	.52	.54	.55	.54	.59
D-	.57	.77	.62	.60	.62	.54	.62	.77	.77	.40	.77	.77	.77	.77	.62	.77	.57	.77	.48	.52	.77	.52	.54	.55	.54	.59
E-	.53	.73	.58	.56	.58	.50	.58	.73	.73	.36	.73	.73	.73	.73	.58	.73	.53	.73	.44	.48	.73	.48	.50	.51	.50	.55
F-	.37	.57	.42	.40	.42	.34	.42	.57	.57	.20	.57	.57	.57	.57	.42	.57	.37	.57	.28	.32	.57	.32	.34	.35	.34	.39
G-	.61	.81	.66	.64	.66	.58	.66	.81	.81	.44	.81	.81	.81	.81	.66	.81	.61	.81	.52	.56	.81	.56	.58	.59	.58	.63
H-	.77	.97	.82	.80	.82	.74	.82	.97	.97	.60	.97	.97	.97	.97	.82	.97	.77	.97	.68	.72	.97	.72	.74	.75	.74	.79
I-	.77	.97	.82	.80	.82	.74	.82	.97	.97	.60	.97	.97	.97	.97	.82	.97	.77	.97	.68	.72	.97	.72	.74	.75	.74	.79
J-	.75	.95	.80	.78	.80	.72	.80	.95	.95	.58	.95	.95	.95	.95	.80	.95	.75	.95	.66	.70	.95	.70	.72	.73	.72	.77
K-	.49	.69	.54	.52	.54	.46	.54	.69	.69	.32	.69	.69	.69	.69	.54	.69	.49	.69	.40	.44	.69	.44	.46	.47	.46	.51
L-	.42	.62	.47	.45	.47	.39	.47	.62	.62	.25	.62	.62	.62	.62	.47	.62	.42	.62	.33	.37	.62	.37	.39	.40	.39	.44
M-	.77	.97	.82	.80	.82	.74	.82	.97	.97	.60	.97	.97	.97	.97	.82	.97	.77	.97	.68	.72	.97	.72	.74	.75	.74	.79
N-	.77	.97	.82	.80	.82	.74	.82	.97	.97	.60	.97	.97	.97	.97	.82	.97	.77	.97	.68	.72	.97	.72	.74	.75	.74	.79
O-	.61	.81	.66	.64	.66	.58	.66	.81	.81	.44	.81	.81	.81	.81	.66	.81	.61	.81	.52	.56	.81	.56	.58	.59	.58	.63
P-	.52	.72	.57	.55	.57	.49	.57	.72	.72	.35	.72	.72	.72	.72	.57	.72	.52	.72	.43	.47	.72	.47	.49	.50	.49	.54
Q-	.61	.81	.66	.64	.66	.58	.66	.81	.81	.44	.81	.81	.81	.81	.66	.81	.61	.81	.52	.56	.81	.56	.58	.59	.58	.63
R-	.61	.81	.66	.64	.66	.58	.66	.81	.81	.44	.81	.81	.81	.81	.66	.81	.61	.81	.52	.56	.81	.56	.58	.59	.58	.63
S-	.62	.82	.67	.65	.67	.59	.67	.82	.82	.45	.82	.82	.82	.82	.67	.82	.62	.82	.53	.57	.82	.57	.59	.60	.59	.64
T-	.45	.65	.50	.48	.50	.42	.50	.65	.65	.28	.65	.65	.65	.65	.50	.65	.45	.65	.36	.40	.65	.40	.42	.43	.42	.47
U-	.75	.95	.80	.78	.80	.72	.80	.95	.95	.58	.95	.95	.95	.95	.80	.95	.75	.95	.66	.70	.95	.70	.72	.73	.72	.77
V-	.42	.62	.47	.45	.47	.39	.47	.62	.62	.25	.62	.62	.62	.62	.47	.62	.42	.62	.33	.37	.62	.37	.39	.40	.39	.44
W-	.47	.67	.52	.50	.52	.44	.52	.67	.67	.30	.67	.67	.67	.67	.52	.67	.47	.67	.38	.42	.67	.42	.44	.45	.44	.49
X-	.47	.67	.52	.50	.52	.44	.52	.67	.67	.30	.67	.67	.67	.67	.52	.67	.47	.67	.38	.42	.67	.42	.44	.45	.44	.49
Y-	.42	.62	.47	.45	.47	.39	.47	.62	.62	.25	.62	.62	.62	.62	.47	.62	.42	.62	.33	.37	.62	.37	.39	.40	.39	.44
Z-	.60	.80	.65	.63	.65	.57	.65	.80	.80	.43	.80	.80	.80	.80	.65	.80	.60	.80	.51	.55	.80	.55	.57	.58	.57	.62

SPACING BETWEEN
4½" U.C. NUMBERS
& 2" L.C. LETTERS

	t	s	n	r
1	1.60	1.55	X	X
2	1.40	X	1.60	X
3	1.40	X	X	1.60
4	1.35	X	X	X
5	1.40	X	X	X
6	1.40	X	X	X
7	1.15	X	X	X
8	1.45	X	X	X
9	1.40	X	X	X
0	1.35	X	X	X

SPACING BETWEEN
2" L.C. LETTERS

	d	h	t
n	.80	X	X
r	.40	X	X
s	X	X	.60
t	X	.70	X

SPACING BETWEEN 3" NUMBERS OR NUMBERS AND LETTERS

	1	2	3	4	5	6	7	8	9	0
1	.95	.77	.80	.77	.75	.80	.71	.77	.77	.77
2	.68	.50	.53	.50	.48	.53	.44	.50	.50	.50
3	.77	.59	.62	.59	.57	.62	.53	.59	.59	.59
4	.88	.70	.73	.70	.68	.73	.64	.70	.70	.70
5	.70	.52	.55	.52	.50	.55	.46	.52	.52	.52
6	.70	.52	.55	.52	.50	.55	.46	.52	.52	.52
7	.66	.48	.51	.48	.46	.51	.42	.48	.48	.48
8	.73	.55	.58	.55	.53	.58	.49	.55	.55	.55
9	.73	.55	.58	.55	.53	.58	.49	.55	.55	.55
0	.73	.55	.58	.55	.53	.58	.49	.55	.55	.55

	N	S	E	W
0	1.52	1:30	1.52	1.28

131 - 44

SPACING BETWEEN LETTERS

3 3/8" L.C. to 3 3/8" L.C.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
B-	.57	.77	.62	.60	.62	.54	.62	.77	.77	.40	.77	.77	.77	.77	.62	.77	.57	.77	.48	.52	.77	.52	.54	.55	.54	.59
C-	.57	.77	.62	.60	.62	.54	.62	.77	.77	.40	.77	.77	.77	.77	.62	.77	.57	.77	.48	.52	.77	.52	.54	.55	.54	.59
D-	.74	.94	.79	.77	.79	.71	.79	.94	.94	.57	.94	.94	.94	.94	.79	.94	.74	.94	.65	.69	.94	.69	.71	.72	.71	.76
E-	.57	.77	.62	.60	.62	.54	.62	.77	.77	.40	.77	.77	.77	.77	.62	.77	.57	.77	.48	.52	.77	.52	.54	.55	.54	.59
F-	.52	.72	.57	.55	.57	.49	.57	.72	.72	.35	.72	.72	.72	.72	.57	.72	.52	.72	.43	.47	.72	.47	.49	.50	.49	.54
G-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
H-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
I-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
J-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
K-	.52	.72	.57	.55	.57	.49	.57	.72	.72	.35	.72	.72	.72	.72	.57	.72	.52	.72	.43	.47	.72	.47	.49	.50	.49	.54
L-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
M-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
N-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
O-	.59	.79	.64	.62	.64	.56	.64	.79	.79	.42	.79	.79	.79	.79	.64	.79	.59	.79	.50	.54	.79	.54	.56	.57	.56	.61
P-	.57	.77	.62	.60	.62	.54	.62	.77	.77	.40	.77	.77	.77	.77	.62	.77	.57	.77	.48	.52	.77	.52	.54	.55	.54	.59
Q-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
R-	.37	.57	.42	.40	.42	.34	.42	.57	.57	.20	.57	.57	.57	.57	.42	.57	.37	.57	.28	.32	.57	.32	.34	.35	.34	.39
S-	.57	.77	.62	.60	.62	.54	.62	.77	.77	.40	.77	.77	.77	.77	.62	.77	.57	.77	.48	.52	.77	.52	.54	.55	.54	.59
T-	.54	.74	.59	.57	.59	.51	.59	.74	.74	.37	.74	.74	.74	.74	.59	.74	.54	.74	.45	.49	.74	.49	.51	.52	.51	.56
U-	.73	.93	.78	.76	.78	.70	.78	.93	.93	.56	.93	.93	.93	.93	.78	.93	.73	.93	.64	.68	.93	.68	.70	.71	.70	.75
V-	.47	.67	.52	.50	.52	.44	.52	.67	.67	.30	.67	.67	.67	.67	.52	.67	.47	.67	.38	.42	.67	.42	.44	.45	.44	.49
W-	.49	.69	.54	.52	.54	.46	.54	.69	.69	.32	.69	.69	.69	.69	.54	.69	.49	.69	.40	.44	.69	.44	.46	.47	.46	.51
X-	.51	.71	.56	.54	.56	.48	.56	.71	.71	.34	.71	.71	.71	.71	.56	.71	.51	.71	.42	.46	.71	.46	.48	.49	.48	.53
Y-	.47	.67	.52	.50	.52	.44	.52	.67	.67	.30	.67	.67	.67	.67	.52	.67	.47	.67	.38	.42	.67	.42	.44	.45	.44	.49
Z-	.54	.74	.59	.57	.59	.51	.59	.74	.74	.37	.74	.74	.74	.74	.59	.74	.54	.74	.45	.49	.74	.49	.51	.52	.51	.56

CHART 3

11-133

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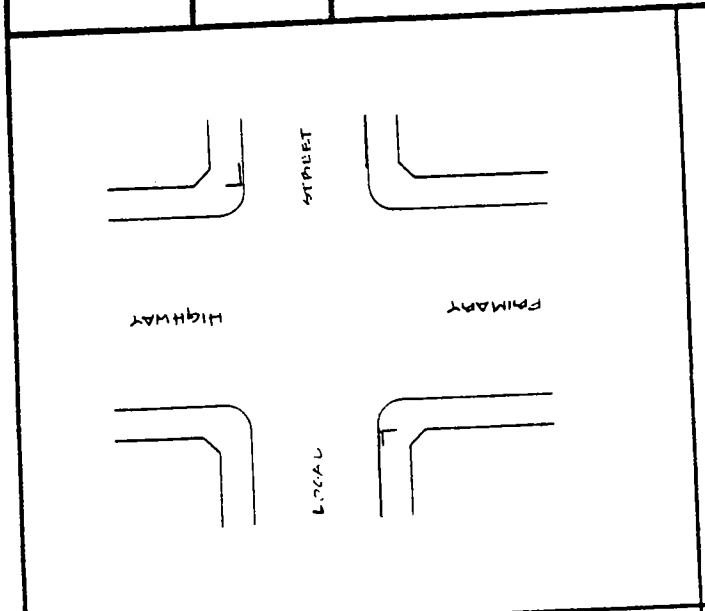

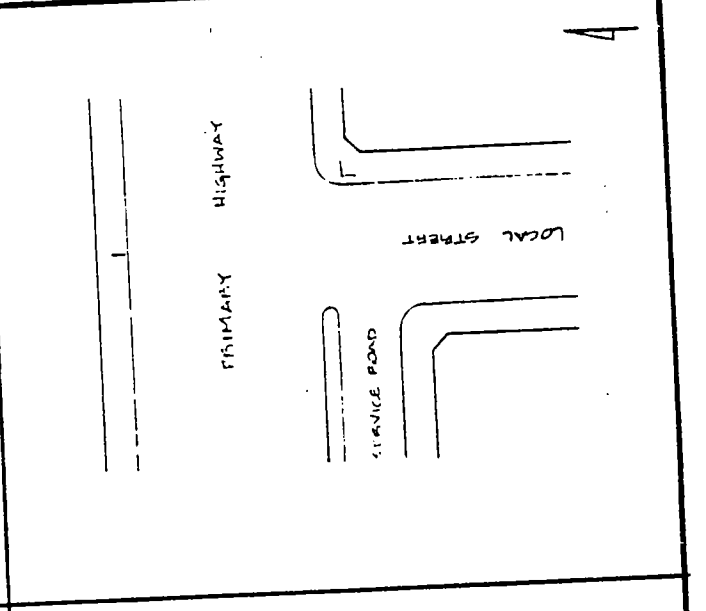

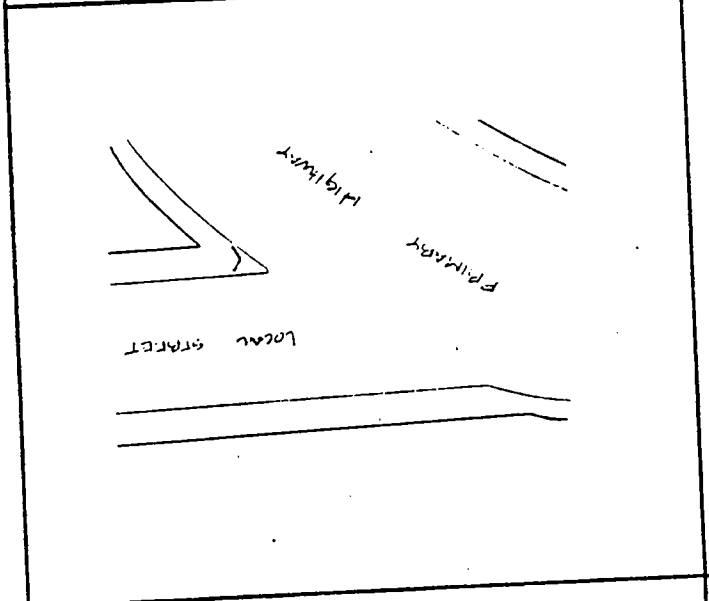

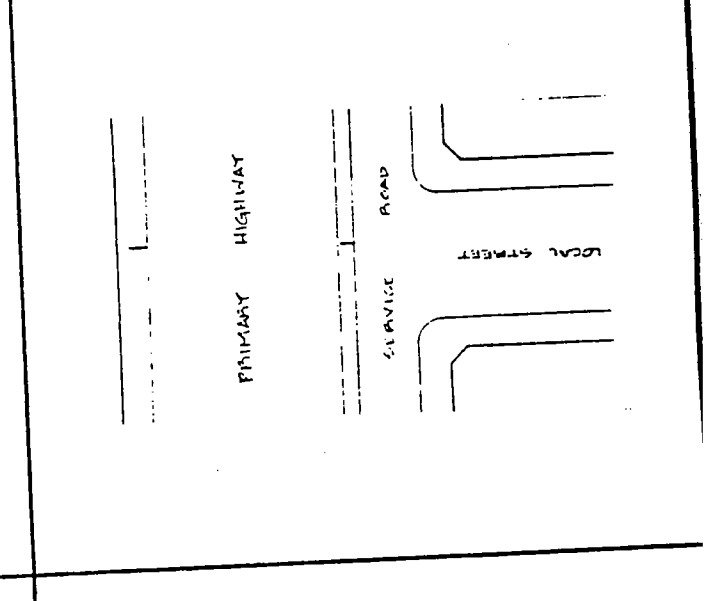

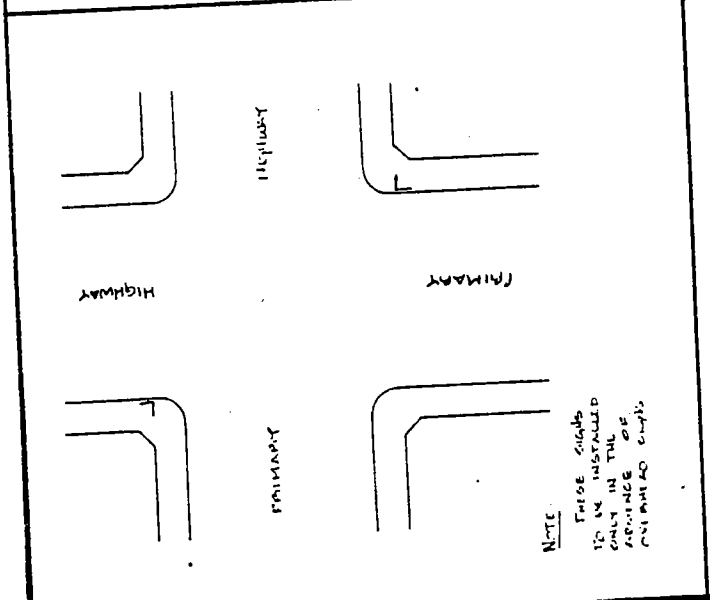

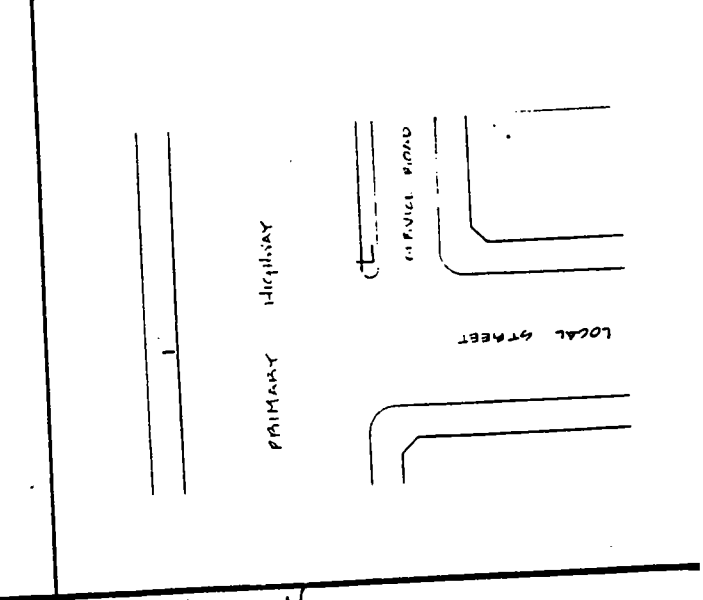

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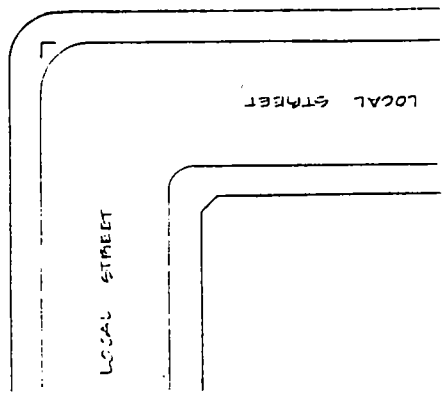

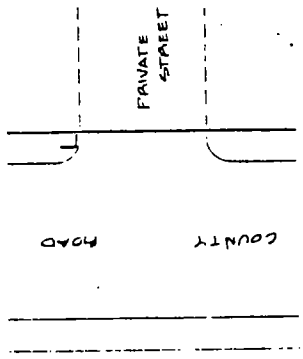

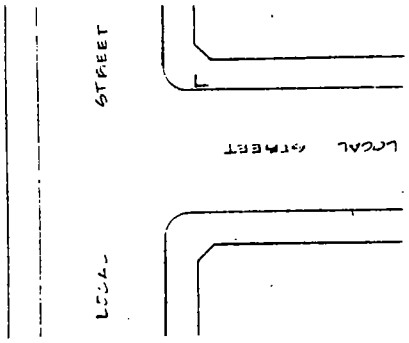

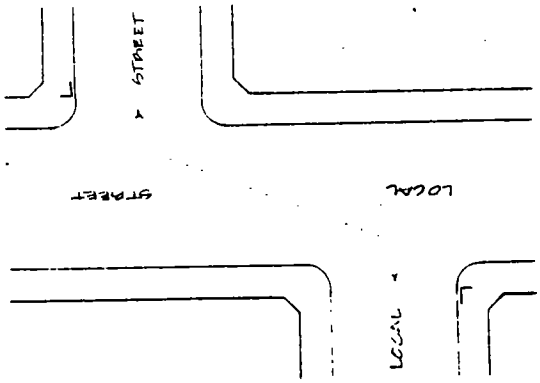

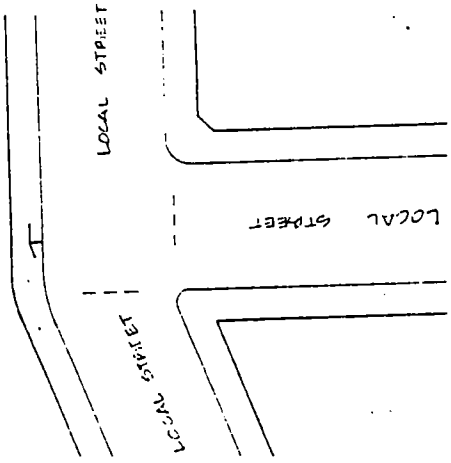

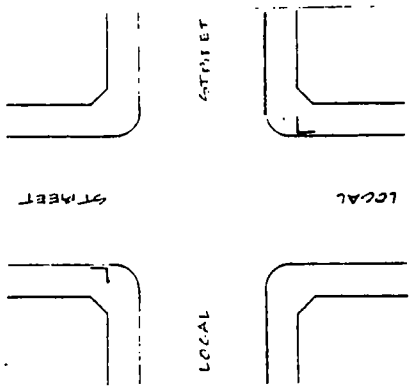

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COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROCEDURES FOR THE PREPARATION OF SIGNING AND STRIPING PLANS BY PRIVATE CONSULTANTS

T. A. TIDEMANSON
Director of Public Works

June 30, 1987

INTRODUCTION

These guidelines will acquaint interested design engineers with standards, criteria, and techniques currently practiced by the Department of Public Works Traffic Design Section. Periodic revisions will keep the guideline current with the latest advances in design methods. In general, the Department of Public Works follows the procedures for traffic control that are contained in the State Traffic Manual.

The purpose of the guidelines is to promote uniformity, clarity, and economy in the production of traffic signing and striping plans. They are not intended as a complete source for design problems; nor do they establish a legal standard.

While the guidelines set forth minimum acceptable design standards, they are not to be regarded as an ultimate, unyielding criterion. The designer's judgment, skill, and creativity are still the primary resources.

I. PLAN RESEARCH

Information regarding existing or proposed signing and striping may be available in one or more of the following:

A. Traffic Design Section card file and tab runs.

B. City or Caltrans records when applicable.

These records are primarily for inventory purposes and the exact locations shall be determined by field measurements by the consultant.

II. DESIGN CRITERIA -

1. Design Speed--Should be based on the 85th percentile speed to the nearest 5 MPH or, if not available, 5 MPH over the existing or proposed posted speed limit. For new highways, the design speed shall be at least 65 MPH for Major Highways, 50 MPH for Secondary Highways and 40 MPH for local streets. Any deviation from that mentioned above must be approved by the Traffic Design Section.

2. Plans shall be prepared, for the most part, in accordance with the latest edition of the State Traffic Manual.

3. Transitions--Striping transitions for offset pavements, turn pockets and pavement narrowing should be per the guidelines of Figure 6-11 of the State Traffic Manual.

4. Auxiliary Lanes--Left-turn lanes or two-way left-turn lanes will generally be required where the pavement width is adequate and left-turn access is required for cross streets or driveways. TWLTL's are designed without the reverse taper at signalized intersections and without a pocket at minor intersections.

Where left-turn lanes are not formed by a raised median, the following general guidelines should be used:

Lengths - 100' local street
150' secondary highway
200' major highways

Reverse Taper - 90' normal
60' slow speed and/or cramped quarters
120' dual lefts

Right-turn lanes may be required at intersections with a large right-turn movement or to solve a geometric problem. Those not formed by the curb are generally striped for 100'. On uncurbed streets, the lane should be preceded by a taper varying from 8:1 for 30 MPH to 15 to 1 for 50 MPH and above.

DESIGN CRITERIA - (contd.)

5. Lane Widths--Shall be designed in accordance with the striping guide (Figure 1) for Major and Secondary Highways or with the recommended lane widths shown in Table I.

6. Left edge lines--Shall be provided adjacent to all raised medians and shall consist of the following:

   A. A 4" yellow painted line in areas with street lighting; or

   B. Yellow raised reflective markers at 24' on center in areas with no street lighting or areas that are subject to fog.

7. Right edge lines--May be required on uncurbed roadways which have a striped centerline. The right edge line is generally located so as to provide a minimum 11' lane with the distance between the right edge line and the edge of pavement being 6" or more. (See 6-02.4 "Traffic Manual")

8. Raised reflective markers (RRM)--Painted double yellow, skip yellow, lane, 8" white lines and two-way left-turn lanes shall be supplemented with raised reflective markers in areas with low lighting levels or areas subject to fog. EXCEPTION: RRM will not generally be used in areas subject to snow.

9. Guide markings through intersections--Where guide markings are used in an intersection, such as for dual left-turn lanes or offset intersections, ceramic markers shall be used with the appropriate color (white or yellow) specified.

10. Striping and pavement markings at intersections--Are generally located in accordance with the typical examples shown in Chapter 6 of the State Traffic Manual.

11. Advance street name signs (Major and Secondary Highways)--Shall be provided for in the raised median of all divided highways. These signs are typically located 100' in advance of the beginning of the reverse taper. The sign, sign legend and design shall be shown on the plan (see Figure 2 for sample and abbreviations).

12. Median signing--The first raised median nose shall be signed with an R7 (Keep Right) and a Type N marker. Each intervening median opening shall be signed with a Type K marker. Median openings at intersections or driveways shall be signed in accordance with Case I or II on Figure 2.

13. Spacing of warning signs--Should be such that enough time is allowed for the motorist decisions to be made safely. Generally, warning signs should be located a minimum of the stopping sight distance prior to the object of the warning.

DESIGN CRITERIA - (contd.)

14. Bike Lanes--Shall be signed, striped and marked per Chapter 1000 Bikeway Planning and Design of Caltrans Highway Design Manual-Fourth Edition except that the 96' skip 6" white line at intersections without crosswalks shall end at the street B.C.R.

15. Sight Distance--At uncontrolled or partially controlled intersections (and at driveways with significant traffic), minimum stopping sight distance must be provided for the appropriate design speed in accordance with the latest edition of AASHTO. If there is insufficient stopping sight distance, it may be necessary to remove or relocate obstructions (walls, fences, buildings, shrubbery, etc.) or provide a geometric design to allow adequate stopping distance. In determining stopping sight distance, the motorist's vision point is located 10 feet behind the stop bar (or curb line prolonged) with the oncoming vehicle located 3 feet off the lane or center line (whichever is applicable).

III. PLAN FORMAT

1. Plans shall be prepared in pencil on tracing paper (2 feet by 3 feet) at a scale of 1"=40'. A maximum of two lengths (about 2400 feet of roadway) shall be shown on each sheet. The tracing shall be accompanied by two prints each time it is submitted for review or approval. The Department will provide the tracing paper.

2. The plans shall be prepared by or under the supervision of a professional civil engineer with a valid California registration. Each sheet shall include at least two signature blocks: one signature block shall include the private engineer's name, registration number, registration stamp or seal, phone number, and address; one signature block for the County. As appropriate, signature blocks will also be required for Caltrans and/or City(s).

3. Each sheet shall include a clear indication of true north. (up or to the left)

4. Each sheet shall be clearly numbered as 1 of 3, 2 of 3, 3 of 3, etc.

5. The plan shall include the Thomas Brothers map page number and coordinates in the lower left-hand margin.

6. The plan shall show the following:

   A. Street centerlines and street names, City-County boundaries, traffic signal locations, driveways, and curb line (if no curb is existing or proposed, show edge of pavement and flow line if shoulder is inverted).

      Dimension curb and/or edge of pavement to centerline, including side streets.

   B. Existing and proposed signing, except for street name signs (other than advance street name signs) and street sweeping signs; existing and proposed pavement markings and curb markings; and proposed striping (including existing striping a minimum of 100 feet beyond the join).

   C. Dimension the length and/or location of the following:

      1. longitudinal lines (centerlines, lane lines, edge lines).

      2. 8" white lines, reverse tapers and parabolic flares (except where median is raised).

      3. transitions (maximum of 300' long without intermediate offsets).

      4. curb markings.

      5. proposed signs and pavement markings.

7. All lines, markings, signs, etc. shall be drawn and labeled in conformance with the legend and abbreviations.

ABBREVIATIONS

Centerline	C. L.
Crosswalk	C. W.
Edge of Pavement	E. P.
Existing	Ex.
Flow line	F. L.
Left edge	L. E.
Left-turn lane	LTL
No parking any time	NPAT
No stopping any time	NSAT
Raised reflective markers	RRM
Red curb	R. C.
Right edge	R. E.
Two-way left-turn lane	TWLTL
White	W.
White curb	W. C.
Yellow	Y.
Yellow curb	Y. C.

LEGEND

Proposed	Item	Existing
	Street centerline	
	Curb	
	Driveway	
	Edge of pavement	
	Flow line	
	Double yellow line	
	Skip centerline	
	Lane line	
	8" white line	
	Two-way left-turn lane	
	Left edge line	
	Right edge line	
R1	Signs	R1
	Crosswalk	
STOP	Pavement marking	STOP
Prop. Red Curb	Curb marking	Ex. Red Curb
T.5.1234	Traffic Signal	T.5.1234

TABLE 1

LANE WIDTH GUIDE

TWO LANES

Width of Barrel	Stripe on Left	Curb on Left	No. 1 Lane	Curb Lane		Comments
					Parking Prohibited	
21	x	x	10	11	"	
22	x	x	10	12	"	
23	x	x	10	13	"	
24	x	x	11	13	"	
25	x	x	11	14	"	
26	x	x	12	14	"	
27	x	x	13	14	"	
28	x	x	14	14	"	
	x	x	10	18	Parking Permitted	
29	x	x	11	18	"	Emerg.or very lgt.prkg
	x	x	10	19	"	Considerable prkg.
30	x	x	11	19	"	
31	x	x	12	19	"	
32	x	x	12	20	"	
33	x		12	21	"	
		x	13	20	"	
34	x		12	22	"	
		x	13	21	"	
35	x		12	23	"	
		x	13	22	"	

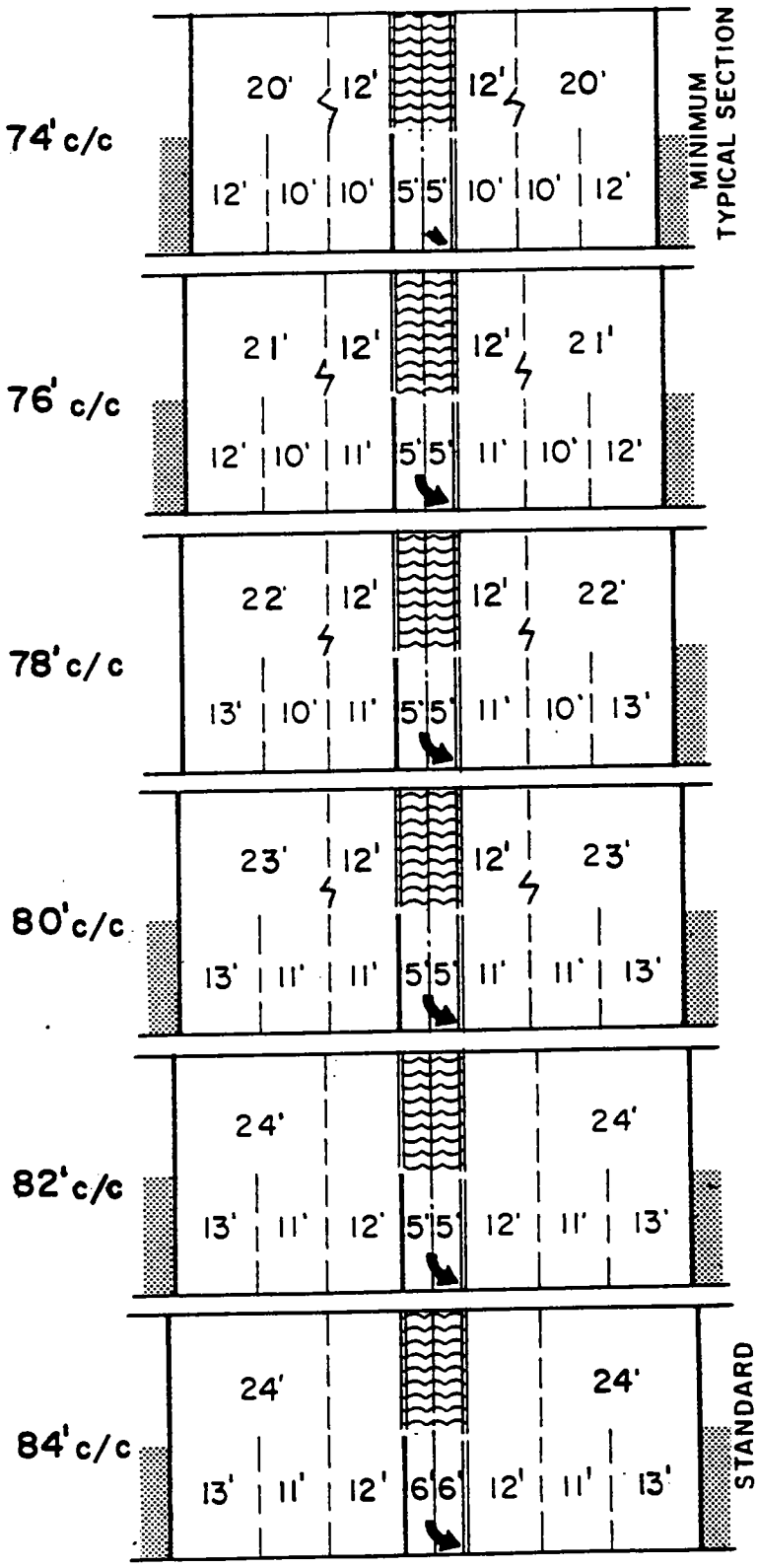
THREE LANES

Width of Barrel	Stripe on Left	Curb on Left	No. 1 Lane	No. 2 Lane	No. 3 Lane	Parking	Comments
32	x	x	10	10	12	Prohibited	Full time prohib.
	x	x	11	10	11	"	Peak hour prohib.
33	x	x	11	10	12	"	
34	x		11	10	13	"	
		x	12	10	12	"	
35		x	12	11	12	"	
	x		11	11	13	"	
36	x	x	12	11	13	"	
37	x		12	12	13	"	
		x	13	11	13	"	

STRIPING GUIDE

MAJOR HIGHWAY — PAINTED MEDIAN

Figure 1-a



LEGEND:

- FULL TIME OR PEAK HOUR PARKING OR STOPPING PROHIBITIONS
- TOP OF CURB LINE
- SOLID OR BROKEN DOUBLE STRIPE
- BARRIER STRIPE
- SKIP STRIPE
- PAINTED MEDIAN OR CONTINUOUS LEFT TURN LANE
- LEFT TURN STORAGE

MAJOR HIGHWAY will provide two lanes each direction separated by a painted median or continuous left turn lane and parking.

AT SECONDARY, MAJOR HIGHWAY INTERSECTIONS, or other locations with heavy turning demands, a third lane as shown, can be provided for this purpose. This will require parking prohibitions at the affected intersections.

When traffic volumes increase so that an additional lane is required for peak hour flows, a third lane can be provided as shown. This will require peak hour or full time parking prohibitions.

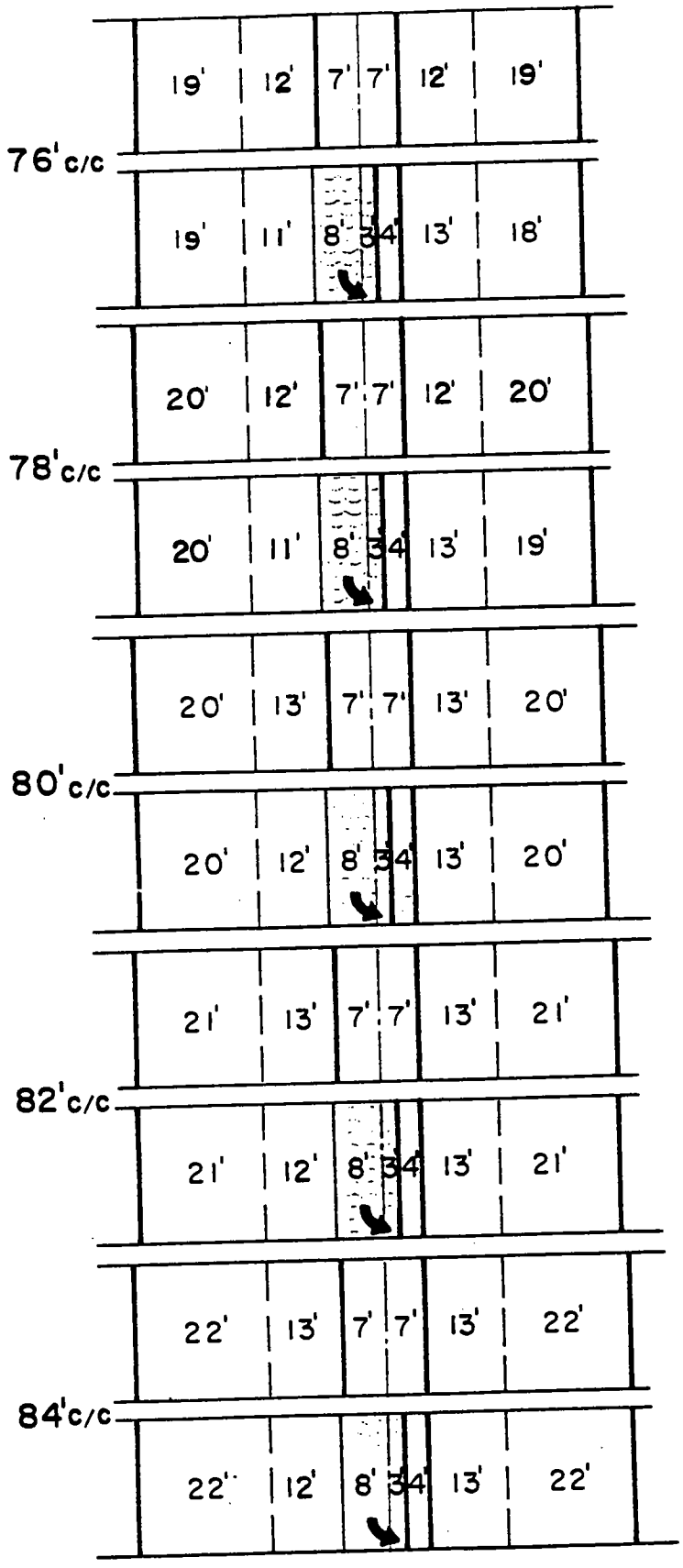
CONCRETE JOINTS should coincide with striping.

Major Highways being striped for two lanes, but expected to require three lanes prior to next surface treatment, shall be striped for narrower No. 1 lane width.

Figure 1-b

STRIPING GUIDE

MAJOR HIGHWAY - RAISED MEDIAN



LEGEND:

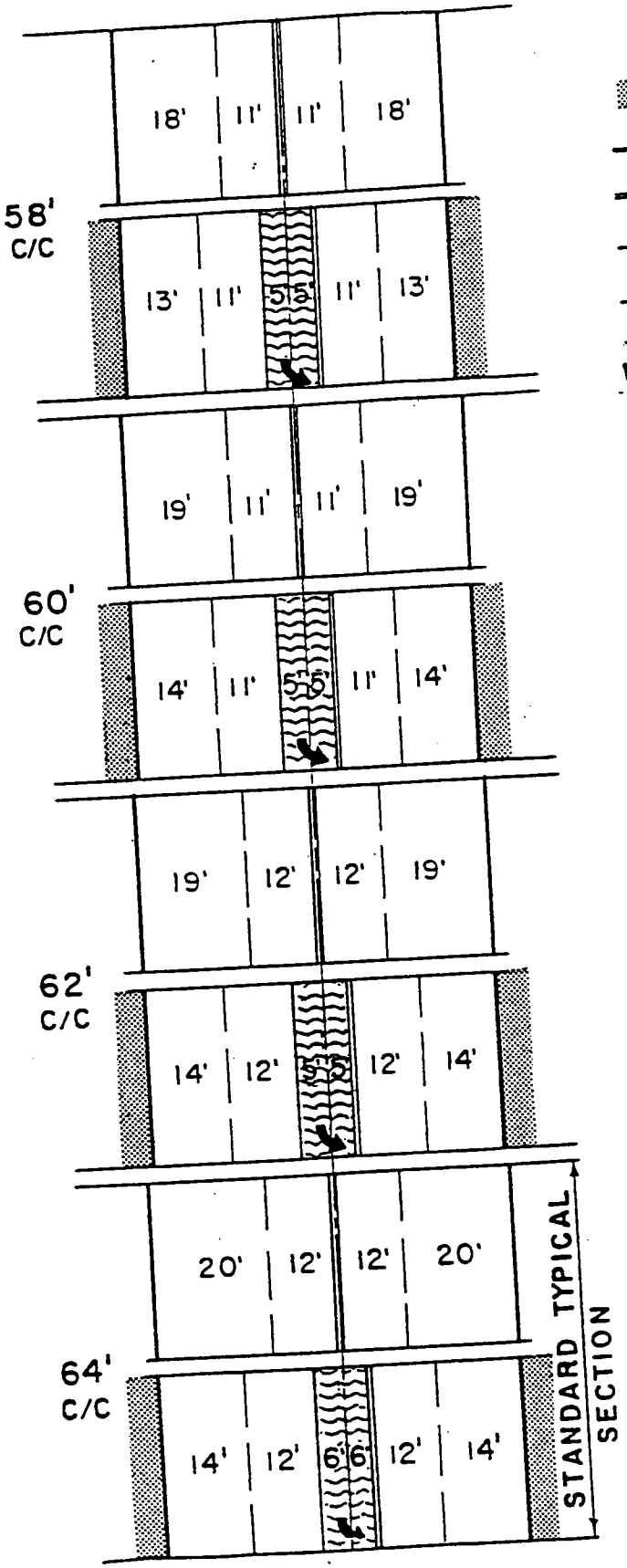
- Curb Line
- Barrier Line
- Skip Stripe
- Left Turn Storage

44-146

Figure 1-c

STRIPING GUIDE

SECONDARY HIGHWAY



LEGEND:

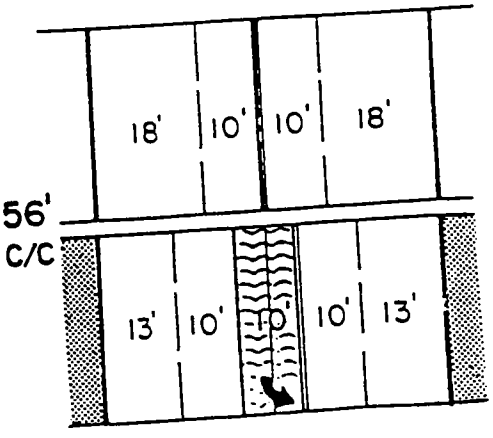
- NO STOPPING ANY TIME
- TOP OF CURB LINE
- SOLID DOUBLE STRIPE
- BARRIER STRIPE
- SKIP STRIPE
- LEFT TURN STORAGE

SECONDARY HIGHWAY will provide two lanes each direction and parking.

AT MAJOR HIGHWAY INTERSECTIONS or other locations with heavy LEFT TURN demands, an additional lane for LEFT TURNS will be provided. This will require parking prohibitions at the affected intersections

CONCRETE JOINTS should coincide with striping.

MINIMUM TYPICAL SECTION



44-147

CHAPTER 45

ROAD PERMITS

As described in Chapter 16, Building Plan Check, and Chapter 22, Road Zoning Requirements, a field investigation is performed by the Road Permit Subunit regarding any proposed development to determine that the proposed land use will meet the zoning code requirements for roads. This includes checking all R-3 or greater building plans for Building and Safety Division and all zone changes, conditional use permits and zone variances for Regional Planning Commission. If the existing roads that serve the project are inadequate, requirements for road improvements and additional right-of-way are issued. Failure to enforce County Codes at this time will result in costly future right of way acquisitions and road improvements paid out of the road budget.

All new structures are subject to the requirements described below in accordance with Part 4 of Chapter 22.48 of Title 22 of the County Code (Zoning Code). The exceptions are as follows:

1. Building and Structures permitted in Zone R-2 (or R-1).
2. Outdoor Advertising.
3. Accessory Agricultural Buildings as defined in this part of the County Code.
4. Oil Wells.
5. Electrical Distribution and Transmission Substations.
6. Water Storage Tanks, Reservoirs and Pumping Plants.
7. Gas Measurement, Distribution and Meter and Control Stations.
8. Telephone Repeater Stations.
9. Temporary Carnivals and Revival Meetings.
10. Other similar uses that will not generate a greater volume of traffic than the above uses.

In addition, this Chapter does not apply to the use, alteration or enlargement of existing buildings or structures or the erection of additional accessory buildings or structures if the total value of the alteration, enlargement or construction does not exceed one-half of the current market value of all existing buildings or structures on the lot or parcel.

While the development may be exempt from the provisions of this Chapter, it is advisable not to build any permanent structures within a future road-right-of-way. Such construction may adversely affect the value of the site and the surrounding area.

The items covered in this investigation are described in Chapter 16 of this Manual for all building permits for R-3 buildings or greater. Also, the items covered in the Road Zoning Requirements are described in Chapter 22. The following are the road standards that are applied to the investigations under both of these previously described chapters:

A. Right of Way

The inspector notes the existing right of way conditions on the site by investigating the site and by reviewing available data kept in the Section, such as, the house numbering maps that are sent to the Division by Building and Safety Division, assessors maps that are available in the Subdivision Section, and the Highway Plan maps which are sent to the Division by Regional Planning Department.

The house numbering map and the assessors map indicate what are the current dedicated road rights of way. Also, the alignments of Highway Plan highways have been established by the Interdepartmental Engineering Committee (I.E.C.) and the information is available from the Planning Division. The Highway Plan defines the various types of designated highways within the County. A verification that the most recent plan has been reviewed is required (see Chapter 22 of this Manual). Based on the Highway Plan street designation, the current right of way requirements are obtained from Title 21 of the County Code (Subdivision Code). In addition, special conditions for highway designs are verified within the Highway Design Manual (see Chapter 44).

B. Curbs, Gutters and Sidewalks

All curbs, gutters and sidewalks at the property in question must meet the requirements of the County Highway Design Manual in accordance with Title 21 of the County Code (see Chapter 44).

C. Wheelchair Ramps

All intersections should have wheelchair ramps meeting the requirements of the State Code (see Chapter 44) unless pedestrians are prohibited from crossing or the sidewalk is too steep.

D. Driveways

Some driveway locations, particularly on Highway Plan highways or in close proximity to intersections, must be approved by Traffic and Lighting Division as meeting their minimum standards.

E. Off-site Drainage

All drainage onto the roadway from adjacent properties must meet the requirements as presented in Chapter 44 of this Manual, the Highway Design Manual, Standard Plan Nos. 62-01 and 62-02 or APWA Standard Plan No. 107-0.

F. Street Lighting

All street lighting must be in accordance with Title 21 of the County Code (see Chapter 44).

G. Street Trees

All street trees must be planted or placed to meet the requirements of Title 21 of the County Code (see Chapter 44).

CHAPTER 46

PRIVATE CONTRACT SEWER AND HAZARDOUS WASTE DISPOSAL PLANS AND SUPPORTING DATA

The necessity for and the procedures for processing private contract sewers are described in Chapter 23. Hazardous waste management is the responsibility of Waste Management Division and that Division must be consulted regarding the latest procedures. It is the purpose of this Manual only to alert developers that they must consult Waste Management Division or Department of Health Services at various stages of the land development process if certain conditions are found to exist or will occur as part of the development. Items I through IX are devoted to minimum standards for Private Contract Sewers. Items X and XI are devoted to minimum standards for meeting hazardous waste disposal procedures.

I. Eligibility for Acceptance of Private Contract Sewers

All private contract sewers must have an outlet and be approved by an outlet agency, such as, the Sanitation Districts of Los Angeles County, Las Virgenes Municipal Water District or the Newhall County Water District, before plans can be approved by the Department and a construction permit issued (see Chapter 23). In addition, all private contract sewers must be accepted for maintenance by a public sewer maintenance organization, such as the County Sewer Maintenance District or the Las Virgenes Municipal Water District. Procedures for obtaining these approvals are described in Chapter 23. Privately maintained sewer systems are not acceptable.

II. Design Criteria for Sewers

Public sewers can be roughly divided into two classes - collector or main line sewers and trunk sewers. Collector sewers are tributaries carrying fresh sewage from relatively small areas to the main arteries or trunks. Sewage flows by gravity in collector sewers which are well ventilated through the multitude of plumbing systems connected thereto.

Trunk sewers, on the other hand, carry stale sewage which is often undergoing decomposition and releasing offensive gasses. They are subject to surcharges during periods of peak loads and are usually poorly ventilated. Most private contract sewers are classified as collector sewers. However, a private contract sewer or house laterals may have to be connected to a trunk sewer which requires different design standards from the Department of Public Works.

The following are minimum design standards for private contract sewers:

A. Sewer Sizes and Depths

1. Depth of Main Line Sewer

The minimum depth of a residential sewer is that depth necessary to obtain a house lateral depth of six feet below curb elevation at property line. The depth is 7.5 feet if the grade of curb is accurately known and 8.0 feet if curb grades are accurate to $\pm$6 inches. However, in some cases, if the existing outlet sewers are too shallow to obtain such a depth, a shallower depth may be approved. The County may require greater mainline sewer depths when it is necessary to extend the main line sewers to serve other areas or when deeper house laterals are required to serve lots that are at a lower elevation than the street or extremely long in depth.

2. House Lateral Sewers

   A 4-inch or 6-inch inside diameter house lateral sewer shall be provided in the street from the main line sewer to the property line for each lot as specified in Section 20.32.510 of Title 20 of the Los Angeles County Code.

3. Depth of House Laterals

   a. The minimum depth at the property line for house laterals shall be 6 feet below the curb grade or street center line as specified in Section 20.32.520 of Title 20 of the Los Angeles County Code.

   b. Depth shall also be sufficient to provide service to the lowest or farthest point to be served on each lot at a minimum grade of 2% with not less than two feet of cover over the top of the pipe. A subminimum grade of 1% on private property may be acceptable if approved by the Building and Safety Division.

   c. When ground water is present the depth of house laterals at the property line may be 5 feet below the curb grade or street centerline.

   d. Where street widening lines have been established by Title 22, the Zoning Code, the minimum depth shall be measured at such established lines. If house laterals are constructed before the existing street is widened, the depth at the property line shall be such that extension at the same straight grade and alignment to the new property line will produce the required depth.

4. Verifying Elevations

   The elevations of all existing inlets and outlets relative to sewer design must be determined by actual field survey. (See Item III.D on Page 46-9.) In no case will there be any equation permitted between the elevations as shown on the profile and the acceptable bench mark.

B. Underground Utility Interference

One of the most important design requirements of a sewer plan is the study of existing, and in some cases proposed, underground pipes and utilities. These will affect both the location and depth of the main line sewer and house laterals.

1. Source of Information

   Prior to beginning the sewer layout, acquire data of existing or proposed pipes and utilities from the Construction Division, Underground Section, and the private or public companies involved.

   The County is not responsible for the accuracy of the location of these underground lines, and a note to this effect is required on the Title Page of each plan. (See Private Contract Sewer General Note 6 on Page 46-54.)

2. Showing Underground Lines on Plans

   Show, label and dimension on the plan all existing underground work that crosses or parallels the sewer, the size of pipe or conduit, and the name of the company owning it.

Show, label and dimension on the profile all telephone, gasoline and oil lines, and any other line 12" or more in diameter. In the event any proposed underground work, such as a large storm drain, necessitates a special design of the sewer, show the proposed work as dashed lines in both plan and profile and designate thus: "Proposed 48" Storm Drain." Careful studies should be made of gas, gasoline and oil lines, which, if broken during construction, could cause considerable damage and injury.

3. Required Letter

A form letter must be completed and signed by the registered civil engineer preparing the sewer plan. The procedure is described in Chapter 23 of this Manual and a sample of the letter form is also shown in the same chapter.

4. Design Criteria Near Water Wells and Mains

The location of water well sites and water mains in the vicinity of a proposed sewer must be thoroughly investigated. If design requirements dictate that a sewer or structure be closer than 50 feet to a water well, special approval must be obtained from local health agencies. The Sewer Subunit should be contacted regarding such situations prior to design.

The "Criteria for the Separation of Water Mains and Sanitary Sewers" on Pages 46-26 through 46-33 issued by the Department of Health Services must be followed when a sewer is located in the immediate vicinity of pressure water mains or water well lines.

Note: When a main line sewer is being designed parallel to a water line, a minimum of 10 feet of clearance must be maintained between the outside of the two pipes. Any distance less than 10 feet requires special approval.

C. Manholes

Only those manholes noted in the list of Standard Plans in Item IV.B.4 on Page 46-11 will be permitted. The allowable normal drop through manholes are shown in Standard Drawing S-C5 on Page 46-90. Drop manholes are not permitted for sewers maintained by the Department.

Both non-reinforced and reinforced standard precast manholes can only be used to a depth of 20 feet. All manholes deeper than 20 feet must have a detailed engineered design including structural calculations.

D. Trunk Sewer Connections

Before designing a connection to a trunk sewer (see definition at the beginning of Item II on Page 46-1), it is always necessary for the private engineer to contact the outlet agency to determine their requirements. They will designate the method and at what point and elevation to make the connection. Agencies providing trunk sewer outlet systems include the following:

1. Sanitation Districts of Los Angeles County

2. Las Virgenes Municipal Water District

3. Newhall County Water District

See Chapter 50 of this Manual for addresses and telephone numbers.

All inlets to trunk sewers shall be designed so as to minimize turbulence in the manhole. The designer must note that the outlet agency such as County Sanitation Districts, Las Virgenes Municipal Water District or Newhall County Water District, must approve connections to their trunk sewer before a construction permit is issued. The connection must be to their requirements and their standard plans or drawings must be used. These drawings must be obtained from them. The following are descriptions and general requirements for connecting to a main line or trunk sewer:

1. Trap Manholes

   Trap manholes are installed in collector sewer lines which outlet into a trunk sewer in order to provide a water seal which prevents any gases present in the trunk sewer from reaching the local sewer system.

   Under present operating conditions, trap manholes must be installed in all local sewers in metropolitan areas which connect to a trunk sewer, except:

   a. Baldwin Hills (Sanitation District No. 11).

   b. West Hollywood and Sherman (Sanitation District No. 4).

   c. All areas north of the Monterey Hills and Puente Hills (Sanitation District Nos. 15, 16, 17, 21 and 22).

   d. Lancaster and Palmdale (Sanitation District Nos. 14 and 20).

   e. Saugus-Newhall area (Sanitation District Nos. 26 and 32).

   f. Las Virgenes Municipal Water District.

   However, no trap manholes are required if the inlet is from a sewer which is not over 350 feet long, has only one manhole which is located at its end, and is never to be extended. Each house lateral connected to such a sewer must contain a running gas trap as specified in Section 1105.d (Page 87), of Title 28 of the County Code (Plumbing Code) which states the type, location and size required.

   The invert elevation of the inlet to, and the outlet from, a trap manhole, shall be the same. However, if design considerations make it necessary, the outlet may be 0.05 foot lower than the inlet.

   For details of a Trap Manhole Base and Castings for sewers of not more than 12 inches in diameter, refer to Standard Drawings, 2007–0 and 2016–0 on Pages 46-66 and 46-75, respectively.

   For details of a Trap Manhole Base and Castings for sewers of fifteen inches in diameter or more, refer to Standard Drawings, 2008–0 and 2017–0 on Pages 46-67 and 46-76, respectively.

2. Running Trap

In order to avoid a concentrated discharge of putrid sewer gas through plumbing vents and consequent complaints, the Sanitation Districts of Los Angeles County require the installation of an unvented running trap between a trunk sewer and any plumbing connected thereto.

Running traps and their cleanouts must be located on private property. Where there is likely to be only one building on a lot, the running trap should be installed adjacent to the building. Where several buildings are connected the running trap should be downstream from the lowest connection. Where future buildings are possible, the running trap should be placed immediately inside of the property line. Two running traps must never be installed in the same line. Building and Safety Division is responsible for inspecting the installation of running traps. Double trap manholes may be used, but shall be included in a design only when necessary. Triple trap manholes are not acceptable. In such cases, a junction chamber with three inlets shall outlet into an additional manhole which is a single trap manhole, which in turn outlets into the trunk sewer.

E. Trench Backfill and Pipe Protection

In order to properly design sewers, the subsurface conditions must be known. This includes knowing the approximate depth to bedrock, the relative compaction of the materials to be excavated, the permeability of these materials if they are to be used as bedding and backfill. If future fills are to be placed to support the sewer or to provide overburden pressure, design information as noted in the previous sentence must also be utilized in the sewer design.

The following design criteria have been developed to insure that sewers will not fail due to differential settlement in filled areas, creating a health and safety hazard and a major maintenance problem:

1. Trench Widths

The maximum width of a sewer trench is presented in Standard Plan No. 2027-0 on Page 46-85. If the trench width is wider, then the bedding and backfill must be placed as if fill is to be placed later, Case IV of Standard Plan No. 2021-0 on Page 46-79.

2. Designation of Filled Areas

As noted in Items IV.C.3.a.b and h on Page 46-16, all proposed or existing filled areas must be shown on the profile. The finished surface over sewer or curb surface by a dashed line labeled "Original Ground Surface." The filled area shall be labeled as to the type of fill with arrows to the limits. If the fill has been compacted to County minimum standards with a relative compaction exceeding 90 percent based on Building Code Requirements (See Chapter 30), then the fill shall be labeled certified compacted fill. If the fill is not certified, it should be labeled uncompacted fill. If debris such as trash, boulders, organic materials, etc., is present, it must be labeled as a landfill with a description of the debris. It should be noted that sewer lines and other structures can only be placed in stable sites such as stable natural ground outside of potential slope failure or settlement areas and uncertified fills. (See Chapter 14 of this Manual.)

3. Trench Bedding and Backfill in Areas Having a Grading Plan

   All bedding for sewer pipe shall meet the requirements of Standard Drawings 2021-0, 2022-0 or 2023-0. Case I will apply for normal trench conditions. If fill is placed after the placement of the sewer, then Case IV will be required. If non-certified fill is encountered, the Department must be consulted regarding the use of Cases II and III of Standard Drawing 2021-0 and the use of Standard Drawing 2023-0. Plastic pipe is not acceptable in non-certified fill areas.

   All trench backfills within new subdivisions shall meet the requirements of the grading plan approved by the Drainage and Grading Section.

   Trenches within street areas shall be backfilled in accordance with Section 306 of the Standard Specifications for Public Works Construction and the Special Provisions for the Construction of Sanitary Sewers (see Pages 46-34 through 46-42).

   Trenches within easements shall be compacted to meet the requirements of the grading plan. This may be accomplished by backfilling to one foot above the pipe with sand and the remainder backfilled in layers not exceeding four inches in thickness with each layer dampened and thoroughly mechanically tamped as specified in Section 306 of the Standard Specifications for Public Works Construction and the Special Provisions for the Construction of Sanitary Sewers. Care must be taken to protect the pipe from cracking.

   The following procedures should be noted on the plans for any sewers within easements within the new tract:

   a. Show the following note within each area affected with the limits arrowed:

      "SPECIAL COMPACTION REQUIRED - SEE NOTE (X), PAGE 1"

   b. Add the following note to general notes, Page 1 of the sewer plans:

      (X) SPECIAL BACKFILL IN DESIGNATED AREAS

      (a) BACKFILL TRENCH AND REPLACE OTHER EARTH REMOVED SO AS TO ACHIEVE THE NATURAL OR FINISHED GRADES AND SLOPES SHOWN ON THE GRADING PLAN APPROVED FOR THIS TRACT BY EITHER THE LAND DEVELOPMENT OR BUILDING AND SAFETY DIVISIONS.

      (b) ALL BACKFILL AND EARTH REPLACED SHALL BE COMPACTED TO A MINIMUM OF 90% OF MAXIMUM DENSITY PER A.S.T.M. STANDARD METHOD OF TEST D1557-78 METHOD "D". ACCEPTABLE CERTIFICATION OF SUCH COMPACTION SHALL BE SUBMITTED TO THE CONSTRUCTION INSPECTION SECTION OF THE CONSTRUCTION DIVISION.

4. Trench Bedding and Backfill and Areas that are not Part of a Current Grading Plan

   Soil Conditions encountered outside of new subdivisions may not be satisfactory for supporting sewers. Most road fills were not placed according to current Building Code Standards. Also many natural soils supporting fills are subject to compression and hydrocompaction. (See Chapter 49 of this Manual.)

If the fill can be certified, the requirements for placing bedding and backfill will be in accordance with Item 2 above.

If the fill cannot be certified and/or unstable natural soils are present, the Department must be so notified and design measures and supporting data demonstrating that the sewer will perform as intended with minimal maintenance must be submitted.

For bedding, Standard Drawings 2021-0 and 2023-0 must be considered. If Cases II and III are to be utilized, supporting data satisfactory to the Department must be submitted. If the existing fill cannot be certified, Cases I and IV may be only utilized if it can be demonstrated to the satisfaction of the Department that the sewer will perform as intended.

It is the Department's general policy that if the relative compaction is found to be between 80% and 90%, all main line and house laterals shall be cradled per Standard Plan 2023-0, Case III, on Page 46-81 or have special base course per Standard Plan 2021-0 Case III, on Page 46-79. Special manhole bases per Standard Plan 2011-0 on Page 46-70 are also required. If the relative compaction is found to be less than 80% and/or overexcavating to firm material is not practical, special designs to the satisfaction of the Department must be submitted.

All backfill within street right-of-way must be placed in accordance with the Standard Specifications. All backfill outside of street right-of-way must be placed in accordance with Title 26 of the County Code requirements. (See Chapters 30 and 49 of this Manual.) In that case Note (b) under X presented in Item 3 should be shown on the plans.

Sewer trench backfilling in fill areas outside of new tracts must be thoroughly reviewed in regards to suitability for supporting a sewer. The Standard Specifications for Public Works Construction and the Special Provisions for the Construction of Sanitary Sewers would apply in such cases for surface restoration, and reference to the grading plan is not necessary. Note (a) under (X) would not be shown on the plans. However, this note could be modified if the sewer is being constructed as part of a single lot development in which there is a grading plan.

F. Sewer Protection and Bedding and Backfill Near Building Sites

Special precautions must be taken for any sewer construction near existing or proposed building sites whether in a fill area or not. The load distribution line will commence at and extend downward at a 45 degree angle from the bottom outside edge of the foundation.

If the sewer pipe is below the 45 degree line, it will be cradled per Standard Drawing 2023-0, Case I (see Page 46-81). Also all backfill below the 45 degree line will be in accordance with note (b) of X in Item E.3.b. above.

Special methods must be used by a contractor to insure protection to existing buildings while construction is underway. The locations of such buildings must be precisely shown on the plans. However, the construction methods used will be the contractor's prerogative unless indicated on the plans in special cases.

G. Sewage Pump Stations

The engineer should check with Design Division, telephone (818) 458-7937, before any design work is done on a sewage pump station to determine the type of structure required, and its location. Frequently it is necessary to get a zoning variance, which this office can advise you in obtaining. Building, Electrical and Plumbing permits may be required in addition to the Sewer Construction permit.

However, the applicable permits will be indicated on the plans upon completion of the plan check. When a station is located within a street right of way, the engineer must secure approval of the plans for the structure from the Permit Section of the Construction Division.

H. Water Pollution Control Plants and Disposal Facilities

Whenever the need arises for the submission of plans for Water Pollution Control Plants, or other special disposal means for checking, it is mandatory that you contact Design Division, telephone (818) 458-7937, before any design work is started. A preliminary report covering the exact type of treatment, effluent disposal, location, size, etc., must be submitted and approved by this office, the Los Angeles County Health Department and other regulatory agencies before design work commences.

III. Specifications, Reports and Calculations for Sewers

The Department of Public Works requires conformance to "the Standard Specifications for Public Works Construction," latest edition, published by Building News, Inc. and the Special Provisions for the construction of Private Contract Sanitary Sewers (see Pages 46-34 through 46-42). Supplemental specifications may be required for special facilities or items not covered by the standard specifications as described in this Manual.

A. Area Studies

An area study must be made for all private contract sewer projects to determine the pipe size, route and the need for downstream reconstruction to handle anticipated sewage flows. (See Chapters 23 and 47, respectively, of this Manual for procedures and design standards).

B. Plastic Sewer Pipe

Besides meeting the requirements of the Standard Specifications for Public Works Construction, all plastic sewer pipe must meet the requirements in the Special Provisions for the Construction of Private Contract Sanitary Sewers. In addition, PVC sewer pipe must meet the "Criteria for Use of PVC Sewer Pipe" on Page 46-43.

C. Index Map

As noted in the requirements for submittal of sewer plans on Page 23-16, Chapter 23, a separate reproducible index map is required. A sample of this index map is on Page 46-45. This index map must also be shown on Page 1 of the plans. See Item IV.B.1.b on Page 46-10.

The index map must meet the following requirements (see sample on Page 46-44):

1. Be drawn to the scale of 1 inch equals 600 feet.

2. Have a north arrow pointing up or to the left.

3. At least one major intersection must be shown on the map for orientation. If necessary, use broken lines to the next existing street.

4. Show streets, alleys, rights of way, and railroads with appropriate labels on the map. Show and label all existing sewers in the vicinity and call out sewer reference numbers. All sewers greater than 8 inches in diameter should be labeled showing pipe sizes.

5. City boundary lines must also be shown and labeled. Use a medium dash-double dot line.

6. Note the tract number.

7. Show sewer right of ways.

8. Show other right of ways.

9. Show existing sewer mains with reference to the P.C. No., C.I. No., or similar designation. Use dash dot symbol for existing sewers.

10. Show the sewer to be constructed with heavy solid lines and indicate plan page numbers in circles.

11. Show manhole locations.

12. Have a standard title block.

D. Survey Field Notes

Field notes of all surveys must be submitted with the sewer plans by the private engineer. The sewer survey notes must contain actual field survey elevations and locations of existing sewers affecting the project including all existing inlets and outlets. All distances and elevations must be established using the bench mark(s) indicated on the plans. (See Item II.A.4 on Page 46-2.)

E. Geotechnical Investigations

The Department of Public Works requires the drilling of test holes in any area suspected of having high perched ground water or other subsurface conditions that adversely affect the proposed sewer system. (See Items II. E. and F beginning on Page 46-5). These test holes should extend at least two feet deeper than the proposed sewer depth. This is mandatory in the design of a sewage pump station. It is the responsibility of the designer to obtain geotechnical consultants to recognize any potential adverse subsurface conditions and recommend mitigating measures. However, subsurface information for adjacent projects meeting the above depth criteria and containing groundwater and other test data may be utilized provided the boring or trench information is clearly described in accordance with the Unified Soil Classification System or acceptable geologic bedrock descriptions (See Chapter 49). The geotechnical requirements for the design of a storm drain system can apply to a sewer system. Particular attention is directed to the elevations on the test holes. It is mandatory that the elevation of the top of the test hole be shown on the plans. The location of the test holes must be shown on the Index Map which is also on Page 1 of the plans (See sample on Page 46-44). Test holes are required so that construction conditions will be known, and necessary design procedures can be shown beforehand.

A geotechnical investigation (see Chapter 49) and approved grading plans (See Chapters 14 and 30) may be required to ensure that the proposed main line and house lateral sewers will be constructed in stable ground.

IV. Sewer Plan Composition

Sample sheets and plans are shown on reduced scale on Pages 46-45 through 46-53. (See Item I.A on Page 50-1, Chapter 50 regarding obtaining a copy at full scale.) The special requirements shown on these sample plans are described as follows:

A. All Sheets

1. Plan Size

The standard tracing cloth sheets (32" long by 24" wide) with preprinted pages shall be used. The tracing cloth or mylar is designed so that the prints can be cut in half (32" long by 12" wide). The first sheet contains two portions, Pages 1 and 2 (see reduced sample on Page 46-45.) The upper portion, Page 1 is the title page (see Item B). The lower portion, Page 2, has a standard plan and profile setup (see Item C). Additional standard tracing cloth sheets with the upper and lower pages containing plan and profile views are also available (see Item VI on Page 50-13, Chapter 50).

2. Drawing Scales

a. The index map on Page 1 shall be drawn to 1 inch = 600 feet.

b. For the plan view and profile view, the horizontal scale shall be 1 inch = 40 feet.

c. For the profile view, the vertical scale shall be 1 inch = 4 feet. Use of a double scale, 1 inch = 8 feet, can only be used in steep terrain and requires the approval of the Sewer Subunit. This double scale must be shown in a box on every page where it is used and must also be indicated on page 1 of the plans. All pages must use the same scale.

B. Title Page

The Title Page which is Page 1 of the plans must contain the following items (see sample on Page 46-46 and 46-47):

1. Required Information

The following information is required on the Title Page:

a. Title Block - see Item 2 below.

b. Index Map - see Item III.C beginning on Page 46-8.

c. Required Notes - see Item 3 below.

d. List of Standard Plans - see Item 4 below.

e. A note allowing alternate pipe material, if it has been approved by the Sewer Subunit. (See Item 3.c below.)

f. Survey benchmark - see Item 5 below.

g. Test boring with laboratory test data - see Item III.E Page 46-9.

2. Title Block

The Title Block shall be placed on the upper right hand corner of Page 1. (See reduced sheet on Page 46-45.) It shall be laid out according to the sample plans on Page 46-47.

3. Required Notes

Three classes of notes are generally shown on the Title Page, Page 1, of the plans. (See sample on Pages 46-46 and 46-47.) Only those notes that are applicable to the system should be listed on the plans.

a. General Notes

A complete set of required general notes are shown on Pages 46-54 and 46-55. For sewers within easements, a general note in Item II.E.3.b on Page 46-6 must also be added to the general notes.

b. Construction Notes

A set of commonly used construction notes are shown on Pages 46-56.

c. Alternate Pipe Material Notes

It should be noted that as of this date, only ABS composite pipe has been accepted by the Department as meeting the Standard Specifications as amended by the special provisions. (See Pages 46-34 through 46-42 for a copy of the special provisions.) The criteria for using plastic is on Page 46-43. A complete set of notes for ABS Composite Pipe Construction Notes is on page 46-57.

4. Standard Plans

All standard plans utilized in the design must be listed on Page 1 of the plans. The following latest revised standard drawings in the "Standard Plans for Public Works Construction" are acceptable for local sewer construction; 203, 205, 210, 211, 212, 221, 223, 224 and 225.

The following noted APWA Standard Plans are acceptable in lieu of the County Engineer Standard Drawings provided the following notes are added to the plans:

a. APWA Standard Plan No. 200-0 (Former County Engineer Standard Drawing No. S-36).

1/ For Section B-B, the 3/4 D dimension is changed to state "1/2 D for pipe less than 18 inches and 3/4 D for pipe 18 inches or greater".

2/ The dimension, 24", in Note 2 shall be changed to 16 inches.

3/ The Standard Manhole steps shall be in accordance with Standard Plan 2014-0 (formerly County Engineer Standard S-17).

4/ This manhole design is satisfactory only to a depth of 24 feet.

b. APWA Standard Plan No. 204-0

1/ This standard plan is used only for house laterals within private property.

c. APWA Standard Plan No. 220-0 (Former County Engineer Standard Drawing No. S-27).

1/ Provide reinforcement per Sec. A-A of County Engineer Standard Drawing No. S-27.

2/ Revise Note 1 to eliminate PE and PVC pipe.

3/ Revise the last sentence of Note 5 to state:

"Unless otherwise stated, the upper end of the chimney pipe shall be at least 8 feet below the grade of the lower curb."

4/ Add Note 10 to state:

"If ABS composite mainline sewer pipe is used, only Type Y base is acceptable."

d. APWA Standard Plan No. 221-0 (Former County Engineer Standard Drawing S-24).

1/ Manholes are required at every vertical angle point.

e. APWA Standard Plan No. 222-0 (Former County Engineer Standard Drawing S-25).

1/ Revise Note 3 to state:

"All house connection sewer pipe shall be 4 inches for residential structures unless otherwise indicated. The pipe may be vitrified clay pipe or ABS solid wall plastic pipe. The house lateral pipe material shall be of the same material as the mainline sewer material."

2/ Concrete encasement or cradling is required under circumstances and standards in Standard Drawing 2023.

All other standard plans listed in this publication are not acceptable for local sewer construction. In addition, the Sanitation Districts of Los Angeles County and the Las Virgenes Municipal Water District have standard plans that may have to be utilized in the PC sewer plans. These standard plans must be noted on page 1 of the PC sewer plans. Copies of these standard plans may be obtained from these agencies.

5. Bench Mark Requirements

The elevation shown on all sewer plans must be the Sea Level Datum of 1929, as established by the U.S. Coast and Geodetic Survey. In no case will there be any equation between the elevations as shown on the profile views and the acceptable bench mark shown on the Title Sheet.

The bench mark note is to appear in the upper left hand corner of Page 1 of the plans (Title Page). The bench mark note is to be shown as required in Item V.B.5, Chapter 36 on Page 36-18.

6. Safety

The plans must contain minimum safety requirements to protect the workers on the job and the public. The Construction Safety Requirements are in Item III.I on Page 36-13, Chapter 36 of this Manual and a note referring to this subject is listed in the required general notes (Note 8, Page 46-54).

C. Plan and Profile Views

A plan and profile view must be contained on one page. (See Item IV.A.1 on Page 46-10 and reduced example on Page 46-45.)

The upper half of the plan and profile page consists of the profile portion and the lower half the plan portion. The following information must be on those sheets:

1. General Items

a. Both the plan and profile views must contain the following:

1/ Existing improvements such as pavement, curbs, gutters (including intersecting existing streets), driveways, drainage structures, utilities, railroad tracks, and buildings in or adjacent to the proposed sewer facilities.

2/ References of any approved designs such as streets, storm drains and water mains.

3/ Existing natural drainage courses.

b. Name Abbreviations and Nomenclature

1/ All street name abbreviations shall be in accordance with Item XIII.A.4.e. on Page 44-21 of Chapter 44.

2/ All Flood Control Facilities shall contain the name as designated in the Flood Control District Nomenclature Manual.

c. Plan and Profile Alignment

The plan and profile should be aligned wherever possible. Where they are not aligned, show the stations on both the plan and profile.

d. Page Number

Each page must have a page number in the upper right hand corner. It shall be written as "Page ___." (See Page 46-456 for general layout.)

e. Private Contract Sewer Number

Each page must have the Private Contract Number. It shall be placed to the left of the Page Number and shall be written as "P.C. ___." (See Page 46-45 for general layout.)

f. Reviewed Signature

Each page other than Page 1 must have below the Private Contract Sewer Number and the Page Number the following: "Reviewed by _____ Date _____." (See Page 46-45 for general layout.)

2. Plan View

Plan views must contain the following information:

a. A north arrow for each plan view pointing up or to the left on the right side of each view or page.

b. City boundary lines with dash-double dot lines.

c. Tract boundary lines with heavy solid lines.

d. If the tract boundary and city boundary are identical, show both boundaries next to each other.

e. Every lot number and tract number.

f. Every lot line with a solid line.

g. Identify at least one lot line per block with proposed sewer main stationing.

h. Existing improvements in existing public right of ways.

i. Topographical features, such as, trees, building outlines, power poles, fire hydrants, etc.

j. Centerlines of existing and/or proposed public road right of ways with thin dash-dot-lines.

k. All existing substructures including gasoline and oil lines including size, location, and owner identification with solid lines.

l. Proposed curb lines with dashed lines.

m. Dimensions of existing and proposed road right of ways, including curb to curb width, parkway width, and sidewalk width.

n. All easements for other utilities with their width purpose and their identification in accordance with the standards presented in Item VI on Page 46-17.

o. Show all access routes to manholes. These access routes must be within an easement dedicated to that purpose. The easement boundaries can be different from the sewer easement.

p. If two or more sections of separate parts of the job are shown on one page, designate each section with a capital letter.

q. Existing main line sewers with heavy dash-dot lines on plan views.

r. Extent of existing pavement (concrete, asphaltic concrete or macadam) in solid red lines and cross hatch the concrete areas on the back of the sheet.

s. When existing and proposed mainline sewers are shown on the same page of the plans, use stationing of existing sewers only for existing sewer and for location of connection structures for the proposed mainline sewers to be connected to the existing mainline sewers. The reference note for the proposed mainline shall be as follows: "New Station = Existing Station per Reference." It is best to start a new sewer line at Station 1+00.00.

t. For proposed mainline sewers shown in the plan view, if that section is also shown in the profile above the plan, use heavy, solid lines. The plan view must be aligned directly under the profile view.

u. For proposed mainline sewers use heavy, dashed lines, if that section is not shown in the profile.

v. For house laterals use dashed lines, whenever they connect to the proposed mainline sewer shown in dashed lines.

w. Draw all house laterals and wyes, shown on the plan view, in ink on the backside of the vellum. Use solid lines.

x. The name of each street.

y. The location of each test hole indicated on the Title Page of the plans and the elevation of the top of the test hole.

3. Profile Views

Profile views must contain the following information:

a. Existing grade over the proposed mainline sewer in dashed lines (free hand) and label as such.

b. Proposed grade over the proposed mainline sewer in solid lines and label as such if there is no curb or gutter.

c. Elevations of the rear lot line and its distance from the proposed mainline sewer's centerline wherever grading plan seems to indicate that lots slope away from street.

d. Existing or proposed street curbs designated as "grade of ..... (North, etc.) curb."

e. North and East curbs of the existing or proposed road as solid lines.

f. South and West curbs of the existing or proposed road as dashed lines.

g. Both curbs as one solid line and designated as "grade of ..... (North and South) curbs where curbs on opposite sides of existing or proposed road right of way are 0.2 feet or less different in elevation."

h. If the proposed sewer is in a fill area, label all fills with an appropriate description such as certified compacted fill, uncompacted fill, sanitary landfill, etc., in accordance with Item II.E.2. on Page 46-6. Show arrows between the existing surface and the finished surface grades. (See Chapter 30 regarding the definitions of the different types of fills.) All fills supporting sewer lines with normal bank fill must be certified by a civil engineer as meeting requirements in Chapters 29 and 70 of Title 26 of the County Code or special designs will be required. (See Item II.E.3. and 4 beginning on Page 46-6.)

i. Stationing and elevation of every curb break.

j. Grade of existing surface over proposed mainline sewer located in an existing public road with an existing curb.

k. All existing substructures, 12" or larger in size including gasoline and oil lines, with critical elevations.

l. Align profile and plan view with the lowest station vertically on top of each other when profile and plan view are out of alignment due to a curved street or right-of-way.

m. Elevations for each part of the profile must be labeled at 5-foot intervals at the right and the left side of the plans.

n. The proposed sewer main and existing or proposed curb and ground surface on top of it. If the existing or proposed curb or ground surface cannot be shown within the preprinted profile section, a break in the profile has to be introduced. Show breaks in profiles at even 100-foot stations.

o. If alignment of plan view and profile on top of each other are impossible because of changes in the horizontal alignment of the proposed sewer main, introduce separate sections and identify them as identical points.

p. Manholes are required to be located at all breaks in alignment.

V. Owner's Survey for New Sewers

Once the sewer system has been constructed, the owner's survey must be performed to provide actual measured elevations and locations for the Main Line Sewer and the House Laterals. Standard Drawing S-C2 on Page 46-89 consists of a form titled "Standard Sewer Grade Sheet" which details the required information for the completion of Record Plans. (See I.F. of Chapter 23 of this Manual, Pages 23-9 and 23-10.)

VI. Sanitary Sewer Easements and Documents

The minimum width of a sanitary sewer easement shall be the maximum depth below the ground surface of the sewer. However, the easement width shall not be less than 10 feet. The easement document must provide for surface ingress and egress to all manholes. If the distance from the street right-of-way is less than 350 feet, the plans must show a pedestrian ingress and egress within an easement. If the distance is greater than 350 feet, the Land Development Division Engineer must evaluate the proposed design and recommend specific ingress and egress needs.

The minimum width of a pedestrian access is six (6) feet. The minimum width of a vehicle access is ten (10) feet with provisions for turning around in a cul-de-sac and for a curve radius at a bend.

All public sanitary sewers must be located either in public rights of way (streets) or easements granted to the County of Los Angeles or contract cities for sanitary sewer purposes. Such easements must be granted to the County by one of the following methods: by dedication on a tract map, or by parcel map or by a separate instrument. (See Chapter 36, Item VI, beginning on Page 36-21.)

A. Plan Approval

Any easement shown on a sewer plan must be granted to and recorded by the County of Los Angeles before plan approval can be granted. The exception is when an easement is to be dedicated on a tract map or parcel map.

B. Instructions for Preparing Easements

Any questions concerning the preparation of legal descriptions and documents pertaining to easement dedications should be referred to the Land Development Division Subdivision Section and those documents pertaining to vacation of easements or a combination of vacation and dedication of an easement should be referred to the Right of Way Engineering Section of Mapping and Property Management Division at (818) 458-7092. All correspondence and telephone communication should refer to the Private Contract sewer number assigned to the project.

SANITARY SEWER EASEMENT PROCESSING		
STEP	BY SEPARATE INSTRUMENT	WITH A TRACT & PARCEL MAP
Approval	Obtain approval from Sewer SubUnit for location and dimensions of the easement.	Locations of all easements must be approved by Section Head. Easements needed for future sewers may also be required.
Documentation	Three copies of right of way sketch to be submitted to Sewer SubUnit. Refer to sample on Page 46-89. Subdivision Section will prepare the dedication of easement documents while the Right of Way Engineering Section of Mapping and Property Management Division will prepare the vacating or the combination of vacating and dedication easement documents.	Easement to be plotted on original Tract or Parcel Map.
Title Report	The Developer shall secure an open title report on the parcel granting the easement. This report is reviewed by those preparing the easement and/or vacation documents.	Title Report for Tract or Parcel Map filing is sufficient.
Fees	Fees in accordance with Section 20.32.240 of Title 20 of the County Code shall be collected, see Chapter 23, Item I.B.5 on Page 23-4.	None.
Easement Document Preparation	All necessary documents for easement dedication are prepared by the Subdivision Section and those documents for easement vacation or a combination of easement dedication and vacation are prepared by the Right-of-Way Engineering Section of Mapping and Property Management Division. These documents are given to the developer to obtain the necessary signatures.	No documentation required. Easement shown and labeled on Tract or Parcel Map.
Final Conveyance	Executed documents will be recorded by the section that prepared them.	Easement is dedicated when Tract or Parcel Map is filed.

C. Letter of Participation

A letter of participation for each private contract must be on file in this office before the sewer plans will be approved (see Chapter 23, Item I.D.2 on Page 23-6).

The letter of participation must list all properties that are participating in the project.

All properties listed will be exempt from any future ordinance frontage charges at the time connection to the sewer is made.

The letter of participation should give a brief description of these properties.

1. Suggested Acceptable Notes

   a. Tract no. 39000.

   b. All property fronting on the sewers.

   c. Tract No 39000 and all that property on the west side of sewer easement.

   d. Lots 5, 9, 10 and 12, First Subdivision Tract.

   e. That property on the northeast corner of First Street and Second Avenue with 100 feet of frontage on each street.

2. Acceptable Notes

   In some cases where it is difficult to describe the parcels participating, it may be acceptable to attach a map to the letter of participation forms. Long legal descriptions only are undesirable.

3. Unacceptable Notes

   a. "1136 Sunshine Lane"

   b. "Bob Jones"

   c. "Robert Smith's property"

4. Signature

   A letter of participation must be signed by the property owner or owners constructing the sewer project. For a new subdivision, the developer may sign the letter of participation. The engineer preparing the plans does not sign this letter unless he is specifically authorized by the property owners. Notarization of the letter of participation is not required.

D. Offer of Dedication

An offer of dedication must be prepared for all private contracts excepting sewers that are built for a new subdivision, or parcel map that are bonded. Refer to Item I.D.3, Chapter 23, on Page 23-6, with a sample letter on Page 23-30 in the same Chapter, for a sample Offer of Dedication form.

Three copies are to be signed, notarized and returned to the Road, Sewer and Water Section of the Land Development Division. If the instrument is executed by a corporation or partnership, appropriate notary acknowledgments must be attached and the corporate seal affixed. An offer of dedication for a new subdivision or parcel map will be included in the agreement accompanying the bond guaranteeing the construction of sewers or on the signature sheet of the tract map and therefore no separate offer of dedication is needed (see Chapter 29).

Your attention is directed to the statement on the form that sewers are constructed for public use and are offered for dedication. Upon acceptance, the County (or contract city) assumes all further responsibility for the operation and maintenance of the main line sewers.

VII. Bonds and Agreements

If the installation of sanitary sewers is required as a condition for the filing of a subdivision, the sewers must either be constructed by the subdivider and accepted by the County, or if the required sewers have not been completed, certain bonds must be posted before the tract or parcel map can be filed (See Chapter 13 and 23).

VIII. Road Grade Approval

All private contract sewer projects prepared for a new subdivision require street grade approval from the Road Plan Check Subunit so that adequate depths and locations can be ascertained (See Chapter 44).

Until approved road plans are received by the Sewer Subunit, the sewer plans cannot be given a thorough and final check resulting in approval. If only preliminary road grade approval has been granted, it shall be necessary to adjust or lower the mainline sewer elevation to insure a 6-foot depth of connection at the property line.

IX. Grade Sheets

The Department of Public Works Standard Sewer Grade Sheets were initiated to standardize the forms on which the private engineer must compile and furnish the necessary construction data to the Construction Division inspector assigned to the project. These grade sheets are setup so that one sheet should be used for each page of plans.

Any questions regarding the use of these forms should be directed to the Construction Division.

A sample grade sheet is shown on Standard Drawing S-C2 on Page 46-85.

X. Waste Disposal and Prevention

The Department's Waste Management Division is responsible for the enforcement of Codes relating to Hazardous Waste and Methane Gas migration.

Only domestically produced sewage can be permitted to enter a sanitary sewer system or be permitted to be placed in a private sewage disposal system. Permission must be obtained from the outlet agencies to place other wastes into the sewer system. Permission must be obtained from the Los Angeles Regional Water Quality Control Board (RWQCB) and Waste Management Division to place other wastes into the ground. The following hazardous waste situations are regulated by the Department's Waste Management Division:

A. Rainfall Contamination

The Sanitation Districts have a policy regarding rain water contamination. (See Pages 46-90 and 46-91.) Recent revisions to this policy is that the largest open area in which rainfall can become contaminated is 10,000 square feet. Otherwise the area must be within a structure. However, any system for handling contaminated storm runoff requires approval and acceptance of inspection responsibility by Waste Management Division.

Waste Management Division also manages and coordinates with incorporated cities and other entities the "Stormwater/Urban Runoff Discharge" requirements for the entire Los Angeles County.

Industrial sites, including construction sites, may be subject to National Pollution Discharge Elimination System (NPDES) requirements established by the RWQCB. The NPDES requirements were issued on November 16, 1990 by the Environmental Protection Agency (EPA) of the Federal Government. These requirements are mandated by the Clean Water Act. Los Angeles County has a permit from the EPA to control all non-storm drain discharge. New regulations are being prepared by Waste Management Division to control pollution from construction and industrial sites.

B. Underground Storage Tanks

Whenever encountered, an underground storage tank must either be removed or upgraded to meet mandatory requirements for existing facilities as presented in Chapter 3 "Monitoring Requirements for Existing Facilities" pamphlet issued by Waste Management Division. Any new underground storage tank must meet current requirements for new facilities obtained from Waste Management Division. (See Chapter 50 of this Manual.)

C. Industrial Waste Discharge

The document "Information and Instructions for Obtaining an Industrial Wastewater Discharge Permit" prepared by Sanitation Districts of Los Angeles County (see Chapter 50 of this Manual) contains the basic information for obtaining the required permit. It is also available in Waste Management Division. The following businesses are exempt from obtaining a permit from Sanitation Districts.

1. All restaurants and hotels.

2. Small food processing establishments with wastewater flows less than 500 gallons per day.

3. All retail grocery stores.

   Exception: centralized food processing facilities for distribution to other grocery stores.

4. All 1-Hour photo shops and small photo processing facilities.

   Exception: centralized film processing facilities.

5. School and commercial laboratories.

6. Medical and professional buildings.

   Exception: hospitals with overnight beds.

7. All pet shops, animal kennels, animal hospitals and animal shelters.

8. Warehouses.

9. Auto dealers and auto repair shops.

   Exception: radiator shops.

10. Car washes with flows less than six million gallons per year.

11. All automotive service stations.

12. Recreational vehicle dump stations (these facilities are required to obtain a special, separate sewage disposal permit).

13. Other companies may be exempt as determined on a case by case basis.

The application form shown in Chapter 9 is also described in this Manual. The Manual includes line by line instructions for completing this form. The type of required plans and how to prepare them are also presented.

D. Sanitary Landfills

Special provisions are required for all building and structure construction on or adjacent to sanitary landfills as follows:

1. The structure must be protected against methane and other gasses from collecting in excessive amounts in accordance with Item F below.

2. Special foundations are required to support the structure both in bearing and laterally.

3. Special utility design is required to reduce rupture failures caused by differential settlement.

E. Hazardous Waste Management Facilities

All hazardous waste management facilities must conform to the County Hazardous Waste Management Plan. See Chapter 50 of this Manual for obtaining a copy.

Before County approval, permits are required from the Environmental Protection Agency, California Department of Health Services, California Water Resources Control Board, Los Angeles Regional Water Quality Control Board, South Coast Air Quality Management District and Los Angeles County Department of Health Services. For detailed information as to the current standards contact Waste Management Division. (See Check List on Page 46-92 for permit requirements.)

F. Methane Gas Protection

Any structure within 1000 feet of a sanitary landfill or an existing or abandoned oil well must be designed to prevent existing and future migration of methane gas into the interior of the structure in accordance with Section 308(c) of Title 26 of the County Code.

G. Storage Areas in Industrial and Commercial Developments

As part of any industrial and commercial development the building plans must show a waste storage area. The requirements issued by Building and Safety are shown on Page 46-93.

H. Abandoned Oil Wells

Before construction is permitted, it must be determined that the oil well was abandoned in accordance with State Standards and the development will not affect the oil well remains. In addition the requirements in Item F must be met.

I. Solid Waste Facilities

Proponents of solid waste facilities, except those otherwise exempted, must submit proposals to the Los Angeles County Integrated Waste Management Task Force for a finding of conformance with the applicable codes. Volatile Wastes are defined when a material and/or a waste has hazardous volatile materials greater than 50 parts per million. Whenever this occurs, a mitigation approval for handling these contaminated materials must be obtained from the South Coast Air Quality Management District under their Rule 1166. The California Waste Management Board also exempts the following specific classifications of solid waste facilities from the requirements of Sections 66783.1 and 66784 of the Government Code: (See Section 17902.1 of Title 14 of the Code of Regulations.)

1. Facilities or portions thereof, established for research purposes only, funded primarily by government grants;

2. Drilling mud disposal sites for short-term use (less than one year) on a one time use per site basis where significant quantities of hazardous or toxic materials are not present in the mud, fluids or cuttings from drilling and associated operations and if the sites have currently valid Waste Discharge Requirements from a California Regional water Quality Board;

3. Farm or ranch disposal sites for one or two family use;

4. Resource recovery facilities intended only for demonstration purposes not to exceed two years, no operated for profit, and not accepting significant quantities of waste;

5. Small volume transfer stations of less than 15 cubic yards of combined container volume with a maximum through put 15 cubic yards per day.

6. Industrial disposal sites located on the producer's property to be used for the exclusive disposal of insignificant quantities of owner's wastes. These wastes must be non-hazardous and their disposal shall not pose a threat to the public health, safety or the environment.

7. Evaporation ponds for disposing of salts from oil and geothermal drilling operations if the ponds have waste discharge requirements.

8. Any woodwaste site that is established for the purpose of replacing an existing woodwaste site and which is located on probate property owned by the operator of the existing site and within the immediate vicinity of the existing site.

Also, approval from the following agencies is required: California Integrated Waste Management Board, California Water Resources Control Board, California Air Resources Control Board, South Coast Air Quality Management District, Los Angeles Regional Water Quality Control Board, Los Angeles County Department of Health Services or the local enforcement agency and the County of Los Angeles Regional Planning Department or the local planning

jurisdiction for the incorporated cities, etc. Each agency has its own standards and should be contacted individually for the latest standards. The requirements by Waste Management Division are on Page 46-94.

XI. Hazardous Materials and Wastes

A. Definitions

Hazardous Materials are defined as those items that have been obtained to be consumed. "Hazardous Waste" means either of the following:

1. A waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may either;

   a. Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness.

   b. Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

2. A waste which meets any of the criteria for the identification of a hazardous waste adopted by the department pursuant to Section 25141 of the Health and Safety Code.

   a. "Hazardous waste" includes, but is not limited to, RCRA hazardous waste.

   b. Unless expressly provided otherwise, the term "hazardous waste" shall be understood to also include extremely hazardous waste and acutely hazardous waste.

B. County Department of Health Services Regulations

Basically the Los Angeles County Department of Health Services is responsible for enforcing site mitigation measures that involve both hazardous materials and wastes. The Site Mitigation Enforcement Section's Telephone Numbers are as follows:

General Mitigation Enforcement	(213) 744-5326
Radiation Management	(213) 744-3244
Asbestos, formaldehyde, Industria Hygiene, etc.	(213) 744-3221
Hazardous Materials	(213) 744-5328
Hazardous Wastes	(213) 744-3223

C. California Department of Health Services

The California Department of Health Services have been mandated by the Legislature to perform the following services:

1. Define and publish a list of hazardous materials and toxic wastes. (See Chapter 59 of this Manual).

2. Define maximum concentrations of hazardous materials and toxic wastes that will not affect public health and safety.

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF HEALTH SERVICES

714/744 P STREET
CRAMENTO, CA 95814

CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS

A. PUBLIC HEALTH CONSIDERATIONS

Waterborne disease outbreaks attributed to the entry of sewage-contaminated groundwater into the distribution systems of public water supplies continue to be a problem in the United States. A community with its buried water mains in close proximity to sanitary sewers is vulnerable to waterborne disease outbreaks.

Sanitary sewers frequently leak and saturate the surrounding soil with sewage. This is caused primarily by structural failure of the sewer line, improperly constructed joints, and subsidence or upheaval of the soil encasing the conduit. A serious public health hazard exists when the water mains are depressurized and no pressure or negative pressures occur. The hazard is further compounded when, in the course of installing or repairing a water main, existing sewer lines are broken. Sewage spills into the excavation and, hence, enters into the water main itself. Additionally, if a water main fails in close proximity to a sewer line, the resultant failure may disturb the bedding of the sewer line and cause it to fail. In the event of an earthquake or man-made disaster, simultaneous failure of both conduits often occurs.

The water supplier is responsible for the quality of the water delivered to consumers and must take all practical steps to minimize the hazard of sewage contamination to the public water supply. Protection of the quality of the water in the public water system is best achieved by the barrier provided by the physical separation of the water mains and sewer lines.

This document sets forth the construction criteria for the installation of water mains and sewer lines to prevent contamination of the public water supplies from nearby sanitary sewers.

B. BASIC SEPARATION STANDARDS

The "California Waterworks Standards" sets forth the minimum separation requirements for water mains and sewer lines. These standards, contained in Section 64630, Title 22, California Administrative Code, specify:

(c) (1) Parallel Construction: The horizontal distance between pressure water mains and sewer lines shall be at least 10 feet.

(2) Perpendicular Construction (Crossing): Pressure water mains shall be at least one foot above sanitary sewer lines where these lines must cross.

3. Recommended clean-up methods.

4. Perform research to improve clean-up techniques under Item 3, to revise material lists under Item 1 and to set public health standards under Item 2.

5. Handle site clean-up projects that are so large that the enforcement cost exceeds local enforcement agency resources.

Should there be any questions regarding the State's role in this field, inquiries should be made to the Toxics Enforcement Duty Officer at (818) 567-3000.

(d) Separation distances specified in (c) shall be measured from the nearest edges of the facilities.

(e) (2) Common Trench: Water mains and sewer lines must not be installed in the same trench.

When water mains and sanitary sewers are not adequately separated, the potential for contamination of the water supply increases. Therefore, when adequate physical separation cannot be attained an increase in the factor of safety should be provided by increasing the structural integrity of both the pipe materials and joints.

C. EXCEPTIONS TO BASIC SEPARATION STANDARDS

Local conditions, such as available space, limited slope, existing structures, etc., may create a situation where there is no alternative but to install water mains or sewer lines at a distance less than that required by the Basic Separation Standards. In such cases, alternative construction criteria as specified in Section E should be followed, subject to the special provisions in Section D.

Water mains and sewers of 24 inches diameter or greater may create special hazards because of the large volumes of flow. Therefore, installations of water mains and sewer lines 24 inches diameter or larger should be reviewed and approved by the health agency prior to construction.

D. SPECIAL PROVISIONS

1. The Basic Separation Standards are applicable under normal conditions for sewage collection lines and water distribution mains. More stringent requirements may be necessary if conditions, such as, high groundwater exist.

2. Sewer lines shall not be installed within 25 feet horizontally of a low head (5 psi or less pressure) water main.

3. New water mains and sewers shall be pressure tested where the conduits are located ten feet apart or less.

4. In the installation of water mains or sewer lines, measures should be taken to prevent or minimize disturbances of the existing line. Disturbance of the supporting base of this line could eventually result in failure of this existing pipeline.

5. Special consideration shall be given to the selection of pipe materials if corrosive conditions are likely to exist. These conditions may be due to soil type and/or the nature of the fluid conveyed in the conduit, such as a septic sewage which produces corrosive hydrogen sulfide.

6. Sewer Force Mains

a. Sewer force mains shall not be installed within ten feet (horizontally) of a water main.

b. When a sewer force main must cross a water line, the crossing should be as close as practical to the perpendicular. The sewer force main should be at least one foot below the water line.

c. When a new sewer force main crosses under an existing water main, all portions of the sewer force main within ten feet (horizontally) of the water main shall be enclosed in a continuous sleeve.

d. When a new water main crosses over an existing sewer force main, the water main shall be constructed of pipe materials with a minimum rated working pressure of 200 psi or equivalent pressure rating.

E. ALTERNATE CRITERIA FOR CONSTRUCTION

The construction criteria for sewer lines or water mains where the Basic Separation Standards cannot be attained are shown in Figures 1 and 2. There are two situations encountered:

Case 1 -- New sewer line -- new or existing water main.

Case 2 -- New water main -- existing sewer line.

For Case 1, the alternate construction criteria apply to the sewer line.

For Case 2, the alternate construction criteria may apply to either or both the water main and sewer line.

The construction criteria should apply to the house laterals that cross above a pressure water main but not to those house laterals that cross below a pressure water main.

Case 1: New Sewer Being Installed (Figures 1 and 2)

Zone	Special Construction Required for Sewer
A	Sewer lines parallel to water mains shall not be permitted in this zone without approval from the responsible health agency and water supplier.
B	A sewer line placed parallel to a water line shall be constructed of: 1. Extra strength vitrified clay pipe with compression joints. 2. Class 4000, Type II, asbestos-cement pipe with rubber gasket joints. 3. Plastic sewer pipe with rubber ring joints (per ASTM D3034) or equivalent. 4. Cast or ductile iron pipe with compression joints. 5. Reinforced concrete pressure pipe with compression joints (per AWWA C302-74).
C	A sewer line crossing a water main shall be constructed of: 1. Ductile iron pipe with hot dip bituminous coating and mechanical joints. 2. A continuous section of Class 200 (DR 14 per AWWA C900) plastic pipe or equivalent, centered over the pipe being crossed. 3. A continuous section of reinforced concrete pressure pipe (per AWWA C302-74) centered over the pipe being crossed. 4. Any sewer pipe within a continuous sleeve.
D	A sewer line crossing a water main shall be constructed of: 1. A continuous section of ductile iron pipe with hot dip bituminous coating. 2. A continuous section of Class 200 (DR 14 per AWWA C900) plastic pipe or equivalent, centered on the pipe being crossed. 3. A continuous section of reinforced concrete pressure pipe (per AWWA C302-74) centered on the pipe being crossed. 4. Any sewer pipe within a continuous sleeve. 5. Any sewer pipe separated by a ten-foot by ten-foot, four-inch thick reinforced concrete slab.

Case 2: New Water Mains Being Installed (Figures 1 and 2)

Zone

A No water mains parallel to sewers shall be constructed without approval from the health agency.

B If the sewer paralleling the water main does not meet the Case 1, Zone B, requirements, the water main shall be constructed of:

1. Ductile iron pipe with hot dip bituminous coating.
2. Dipped and wrapped one-fourth-inch-thick welded steel pipe.
3. Class 200, Type II, asbestos-cement pressure pipe.
4. Class 200 pressure rated plastic water pipe (DR 14 per AWWA C900) or equivalent.
5. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-74 or C301-79 or C303-70).

C If the sewer crossing the water main does not meet the Case 1, Zone C, requirements, the water main shall have no joints in Zone C and be constructed of:

1. Ductile iron pipe with hot dip bituminous coating.
2. Dipped and wrapped one-fourth-inch-thick welded steel pipe.
3. Class 200 pressure rated plastic water pipe (DR 14 per AWWA C900) or equivalent.
4. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-74 or C301-79 or C303-70).

D If the sewer crossing the water main does not meet the requirements for Zone D, Case 1, the water main shall have no joints within four feet from either side of the sewer and shall be constructed of:

1. Ductile iron pipe with hot dip bituminous coating.
2. Dipped and wrapped one-fourth-inch-thick welded steel pipe.
3. Class 200 pressure rated plastic water pipe (DR 14 per AWWA C900) or equivalent.
4. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-74 or C301-79 or C303-70).

NOTES AND DEFINITIONS:

1. HEALTH AGENCY -- The Department of Health Services. For those water systems supplying fewer than 200 service connections, the local health officer shall act for the Department of Health Services.

2. WATER SUPPLIER -- "Person operating a public water system" or "supplier of water" means any person who owns or operates a public water system.

3. LOW HEAD WATER MAIN -- Any water main which has a pressure of five psi or less at any time at any point in the main.

4. Dimensions are from outside of water main to outside of sewer line or manhole.

5. COMPRESSION JOINT -- A push-on joint that seals by means of the compression of a rubber ring or gasket between the pipe and a bell or coupling.

6. MECHANICAL JOINTS -- Bolted joints.

7. RATED WORKING WATER PRESSURE OR PRESSURE CLASS -- A pipe classification system based upon internal working pressure of the fluid in the pipe, type of pipe material, and the thickness of the pipe wall.

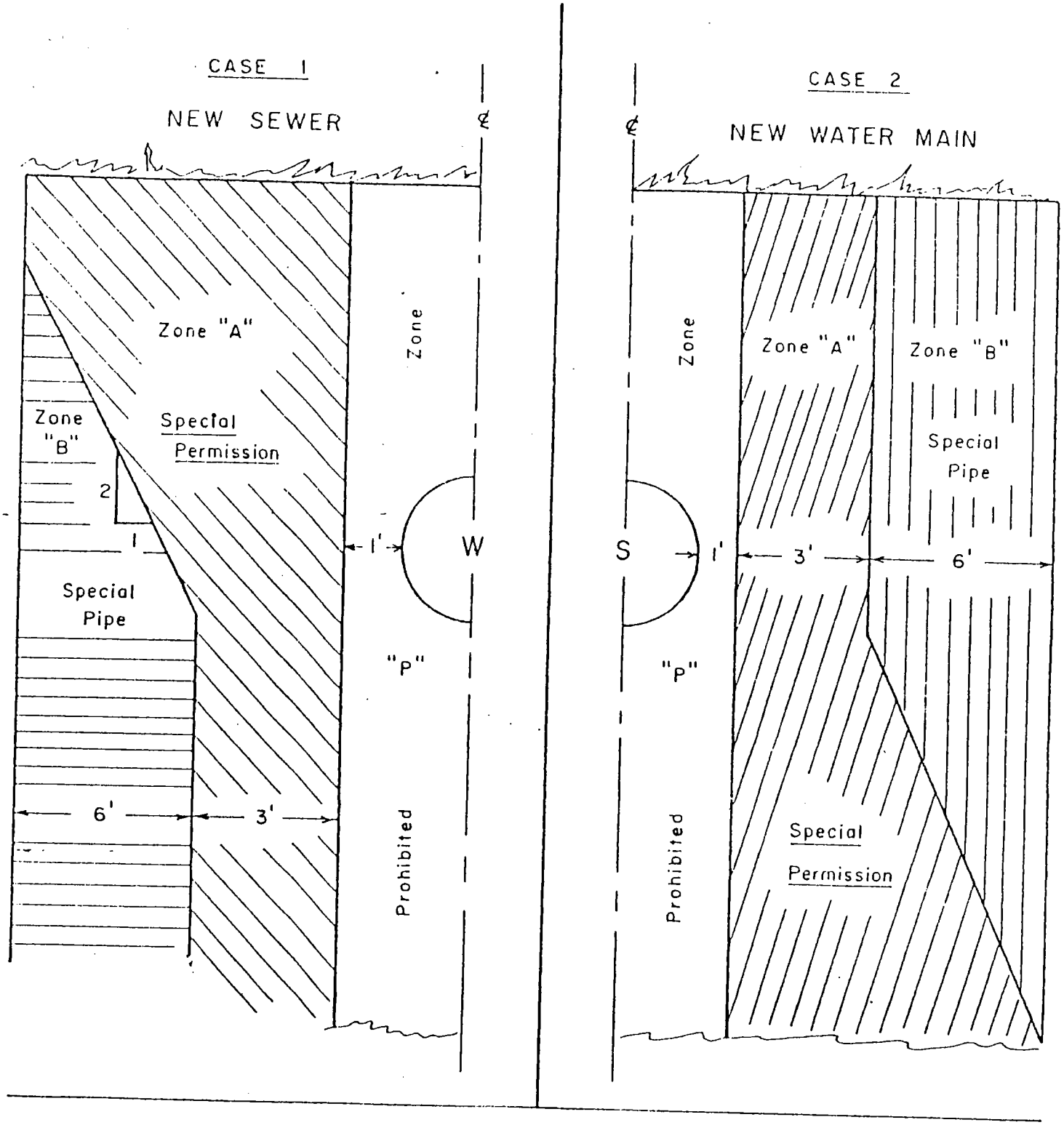
8. FUSED JOINT -- The jointing of sections of pipe using thermal or chemical bonding processes.

9. SLEEVE -- A protective tube of steel with a wall thickness of not less than one-fourth inch into which a pipe is inserted.

10. GROUND WATER -- Subsurface water found in the saturation zone.

11. HOUSE LATERAL -- A sewer connecting the building drain and the main sewer line.

4/5/83

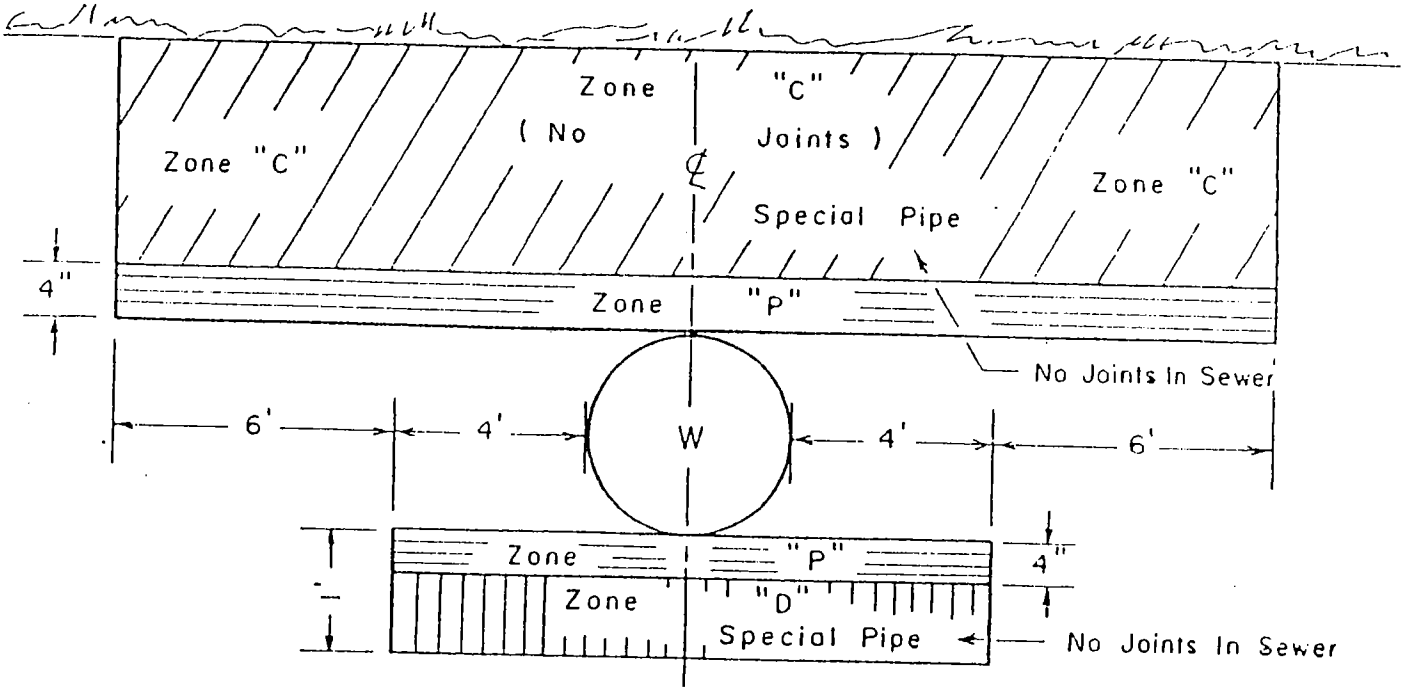


Note: Zones identical on either side of center lines.
Zone "P" is a prohibited zone, Section 64630 (e) (2) California Administrative Code, Title 22

Figure 1 - PARALLEL CONSTRUCTION

CASE 1

NEW SEWER



Note: "P" is a prohibited construction zone

CASE 2

NEW WATER MAIN

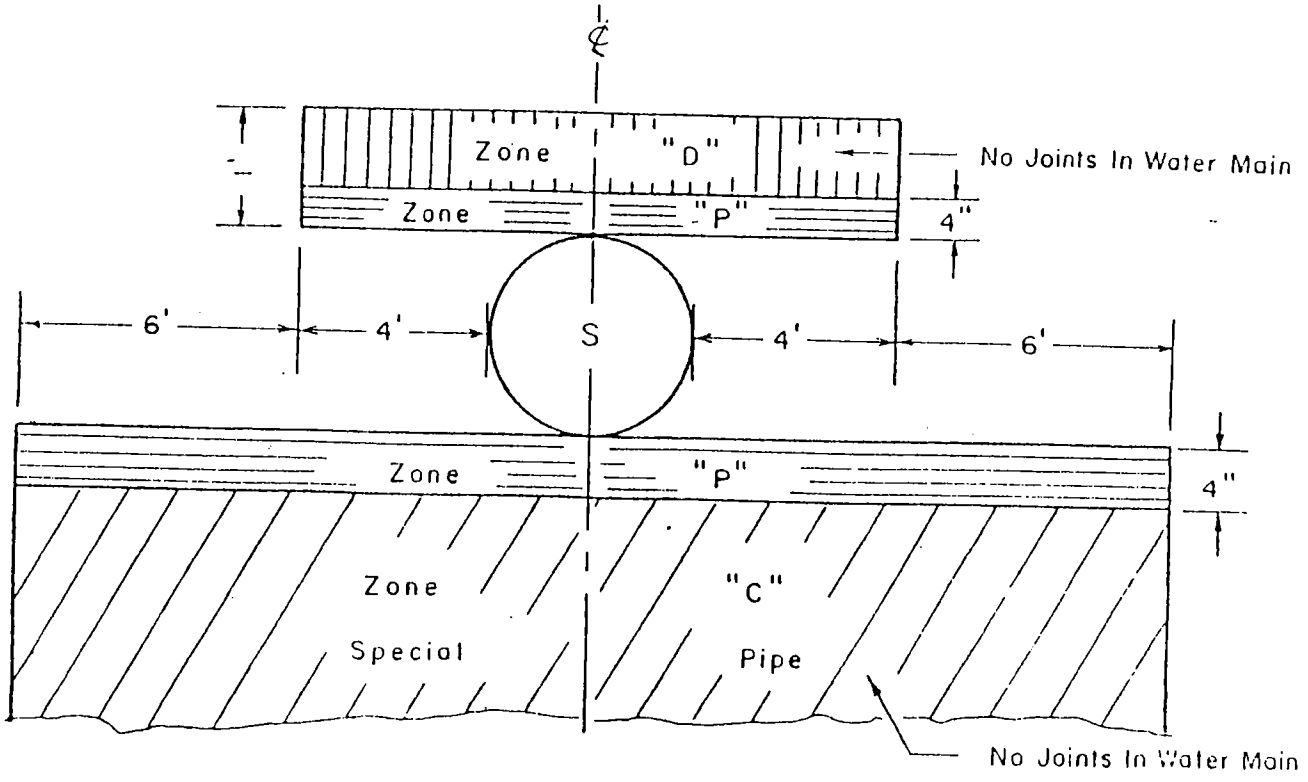


Figure 2 — CROSSINGS

SPECIAL PROVISIONS FOR THE CONSTRUCTION OF PRIVATE CONTRACT SANITARY SEWERS

JUNE 8, 1993

LAND DEVELOPMENT DIVISON

COUNTY OF LOS ANGELES . DEPARTMENT OF PUBLIC WORKS

TABLE OF CONTENTS

SPECIAL PROVISIONS FOR THE CONSTRUCTION OF PRIVATE CONTRACT SANITARY SEWERS

PART I
GENERAL

The 1991 edition of the STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION and its Supplements, hereinafter referred to as the Standard Specifications, shall be applicable for all sanitary sewer projects except where supplemented, modified, or deleted in the Special Provisions, and approved Plans.

The Standard Specifications will not be furnished by the County but are available for reference in any office of the Department of Public Works. Copies may be purchased from Building News, Incorporated, 3055 Overland Avenue, Los Angeles, California 90034. (See Chapter 50 of this manual.)

PART II

AMENDMENTS OF STANDARD SPECIFICATIONS

Section 1-2 Definitions

Section 1-2 of the Standard Specifications is hereby amended by adding:

House Lateral - Has the same definition as House Connection Sewer.

Section 2.6 Work To Be Done

Section 2-6 is amended by adding the following paragraph at the beginning of the Section to read:

Before work can be started, the permittee shall designate on the permit application the name of the contractor along with proof that the contractor has a certificate of Workman's Compensation Insurance and CAL-OSHA permit to perform excavations. Should the permittee change contractors, the permittee must provide the above information to the Engineer before the new contractor can begin any work.

Section 2-10 Authority of Board and Engineer

Section 2-10 of the Standard Specifications is hereby amended by adding to the end of the Section:

If the contractor performs construction work on Saturdays, Sundays, New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day, or outside the 8-hour regular working day, the contractor shall first notify the Engineer of his intent to do so at least 24 hours prior to commencing such "overtime" work. Before commencing any "overtime" work, the contractor may have to deposit with the Department of Public Works sufficient funds to defray all additional expense to the Department for inspection and other incidental expenses caused by such "overtime" work. This provision does not apply to "overtime" work specifically requested by the Engineer or specifically required in the specifications.

Section 4-1.1 Materials and Workmanship General

Section 4-1.1 of the Standard Specifications is hereby amended by deleting the second paragraph and adding to the end of the Section:

On all questions relating to the acceptability of the material, equipment or work and the interpretation of Specifications or drawing, the decision of the Engineer is final and binding under the construction permit, unless otherwise ordered by the Board.

The developer is responsible for all questions relating to quantities, progress or sequence of work and shall be responsible for any payment under the Contract between him/her and the contractor. The

developer shall notify the Engineer of all progress or sequence of work and any modifications thereafter. The developer shall notify the Engineer at least 72 hours prior to starting work under this permit.

Should original or developed defects or failures appear within a period of one year from the date of acceptance of the work by the Board, and upon notification within such period of such defects or failures, the contractor shall, within a reasonable time after such notification and at his own expense, make good such defects and failures and make all replacements and adjustments required, to the approval of the Engineer.

Section 7-4 Workman's Compensation Insurance

Section 7-4 of the Standard Specifications is hereby amended by adding to the end of the Section:

Should the policy expire during the contract time, the contractor shall file with the Engineer, at least ten (10) days prior to the expiration date thereof, evidence of the renewal or replacement of the policy. Should such evidence not be filed on time, the Agency may issue a Stop Order on the work of the project with no work to be done on the project thereafter until the insurance coverage has been obtained.

Section 7-10.4.1 Safety Orders

The second paragraph of Section 7-10.4.1 of the Standard Specifications is hereby amended by adding the following:

A copy of the State Division of Industrial Safety permit shall be submitted to the Engineer.

Section 7-10.4.2 Use of Explosives

Section 7-10.4.2 of the Standard Specifications is hereby amended by adding to the end of the Section:

In the event that blasting is necessary in excavating for the construction of a sanitary sewer facility the following conditions must be strictly complied with by the contractor.

1. An excavation permit must be obtained from the Los Angeles County Department of Public Works.
2. A blasting permit must be obtained from the Los Angeles County Forester and Fire Warden, Fire Prevention Bureau.
3. The local substation of the Los Angeles County Sheriff's Department shall be advised in advance of blasting schedule.
4. The local Fire Department station shall be notified in advance of blasting schedule.

Specific permission must be obtained from the Los Angeles County Department of Public Works in writing prior to any blasting operations.

Section 207-6 Asbestos Cement Sewer And Storm Drain Pipe

Section 207-6 is hereby deleted

Section 207-7 Asbestos Cement Pressure Pipe

Section 207-7 is hereby deleted

Section 207-9.2.1 General

Section 207-9.2.1 of the Standard Specifications is hereby amended to read:

Ductile iron pipe shall comply with ANSI A21.51 (AWWA C 151). Only Class 52 or greater ductile iron pipe will be allowed for use on sanitary sewer projects.

Section 207-9.2.2 Pipe Joints

Section 207-9.2.2 of the Standard Specifications is hereby amended by deleting flanged joint and flanged joint (threaded flanges).

Section 207-15.1 General

Section 207-15.1 of the Standard Specifications is hereby amended by adding to the beginning of the Section:

ABS solid wall pipe meeting the requirements of the Standard Specifications as modified by these Special Provisions may only be used for wye and house lateral connections to ABS composite mainline pipe. ABS solid wall pipe may not be used as mainline sewer. This pipe shall not be used for sewers serving commercial or industrial areas, or areas that, in the opinion of the Engineer, are likely to be rezoned to commercial or industrial use.

Section 207-16.1 General

Section 207-16.1 of the Standard Specifications is hereby amended by adding to the beginning of the Section:

ABS or PVC composite pipe meeting the requirements of the Standard Specifications as modified by these Special Provisions may only be used where specifically indicated on plans approved by the Engineer. Where pipe is used, it shall be used for the entire length of the sewer between any two manholes and shall include the house laterals in that reach. This pipe shall not be used for sewers serving commercial or industrial areas, or areas that, in the opinion of the Engineer, are likely to be rezoned to commercial or industrial zones.

Section 207-16.1 of the Standard Specifications is hereby amended by adding after the first paragraph:

The Maximum SDR shall be 35.

Section 207-17.1 General

Section 207-17.1 of the Standard Specifications is hereby amended by adding to the beginning of the section:

PVC plastic pipe meeting the requirements of the Standard Specifications as modified by these Special Provisions may only be used where specifically indicated on plans approved by the Engineer. Where this pipe is used, it shall be used for the entire length mainline of the sewer between any two manholes. House laterals shall be solid wall pipe of the same material as the main line pipe. This pipe shall not be used for sewers serving commercial or industrial areas, or areas that, in the opinion of the Engineer, are likely to be rezoned to commercial or industrial zones.

Section 306-1.2.1 Bedding

Section 306.1.2.1 of the Standard Specifications is hereby amended by adding to the end of the first paragraph:

Pipe bedding shall be in accordance with Standard Plan 2021-0 and 2022-0 unless otherwise noted on the plans.

Section 306-1.2.1 of the Standard Specifications is hereby amended by adding to the end of the Section:

Plastic pipe shall be bedded as shown in the following table:

Type of Pipe	Depth of Cover	Bedding Required
Solid Wall (ABS & PVC) 4" to 15" size	Less than 4'	Encasement per 2023-0 Case II or Special Design
	4' to 17'	Crushed Rock Bedding to Spring Line per 2022-0
	17' to 30'	Encasement per 2023-0 Case II
	greater than 30'	Special Design
ABS Composite 8" to 15" size or ABS Solid Wall SDR 23.5, 4" to 6" diameter	less than 4'	Encasement per 2023-0 Case II or Special Design
	4' to 20'	2021-0
	9' to 20'	Crushed Rock Bedding to Spring Line per 2022-0
	20' to 30' greater than 30'	Encasement per 2023-0 Case II or Special Design

Section 306-1.2.2 Pipe Laying

Section 306.1.2.2 of the Standard Specifications is hereby amended by adding to the end of the section:

All house laterals shall be laid on a straight grade from the fitting joining the mainline sewer, and shall not be laid on a slope greater than 45 degrees from a horizontal line without prior approval from the Engineer and without being clearly indicated on the plans.

"T" or "Y" branches, unless otherwise specified, shall be inclined upward at an angle approximately 45 degrees from the horizontal.

Section 306-1.2.9 Field Jointing of Solvent Welded ABS and PVC Pipe

Section 306-1.2.9 of the Standard Specifications is hereby amended by adding the following to the first paragraph:

The ends of ABS Composite Pipe shall be thoroughly coasted with solvent cement.

Section 306-1.2.12 Field Inspection for Plastic Pipe and Fittings

Section 306-1.2.12 of the Standard Specifications is hereby amended be substituting the second sentence of the first paragraph of the section:

For deformation in the ground, the percentage reduction in pipe diameter shall not be more than three (3) percent.

Section 306-1.2.12 of the Standard Specifications is hereby amended by revising Item 2 of the fifth paragraph:

2) Have a minimum diameter at any point along the full length of at least 97 percent of the specified average inside diameter.

Section 306-1.2.13 Installation of Plastic Pipe and Fittings

Section 306.1.2.13 of the Standard Specifications is hereby amended by replacing paragraphs two through five:

Bedding shall be placed in accordance with Section 306-1.2.1 as amended in this document.

Section 306-1.2.13 of the Standard Specifications is hereby amended by replacing the table in paragraph six:

Nominal Pipe Diameter in inches	Minimum radius in feet	
	Solid Wall Pipe	ABS Composite Pipe
4	not allowed	not allowed
6	not allowed	not allowed
8	280	380
10	350	480
12	420	580
15	525	720

Section 306-1.2.13 of the Standard Specifications is hereby amended by adding after the table in paragraph six:

Curves can also be achieved by using deflection fittings having a maximum deflection of 3 (three) degrees. When such deflection fittings are used, the minimum radius of curvature permitted shall be as follows: 8"-120, 10"-185, 12"-213' and 15"-275'.

Section 306-1.2.13 of the Standard Specifications is hereby amended by adding to the end of the section:

House Lateral connections shall only be made with factory molded wyes. Tee connections shall not be permitted.

Section 306-1.3.0 Backfill and Densification Near Structures and Protection of Pipe during Backfill Placement (New)

Section 306-1.3 (Backfill and Densification) of the Standard Specifications is hereby amended by adding after the title, Section 306-1.3.0 to read:

If a sewer pipe is installed near an existing or proposed building, retaining wall or other load-projecting structure so that it will lie below a line projected downward and outward at a 45 degree angle from the bottom outside edge of the foundation of such structure, all backfill and bedding below such 45 degree line shall consist of clean sand jetted into place or crushed aggregate material carefully mechanically compacted into place and the pipe shall be protected by cradling in accordance with Standard Drawing S-23, Case I (see Page 46-74). Whatever method is used, the backfill must meet or exceed 90 (ninety) percent of maximum density as determined by ASTM D1557-78, Method C. The backfill and bedding material to be used shall be approved in advance by the Engineer.

Section 306-1.4 Testing Pipelines for Leakage

Section 306-1.4.1 of the Standard Specifications is hereby amended by replacing Item 3 to read:

For gravity sewers, 24 inches or less in diameter where differences in elevation between inverts of adjacent manholes is greater than 10 feet, Air Pressure tests are required.

Section 306-1.5.0 Resurfacing Methods (New)

Section 306-1.5 (Trench Resurfacing) of the Standard Specifications is hereby amended by adding after the title, Section 306-1.5.0 to read:

For projects being constructed in existing paved streets, resurfacing in streets shall be pursued immediately after completion of the trench backfill and required compaction tests, in accordance with one of the following methods:

a. Crushed aggregate base material shall be placed to the total depth of base and pavement required by the Resurfacing Schedule shown on the plans and shall be maintained flush with the surface of adjacent paved areas until permanent resurfacing is placed, OR
b. Temporary bituminous resurfacing shall be placed and maintained until permanent resurfacing is placed, or
c. Permanent resurfacing in accordance with the Resurfacing Schedule shown on the plans shall be placed immediately. Approximately one inch of the required permanent resurfacing may be temporarily omitted and the base course maintained at a depth between 3/4 inch and 1 inch below the adjacent paved areas until the final course is placed.

If any of these methods, the permanent resurfacing shall be completed before accepting the sewer.

Section 306-1.5.1 Temporary Resurfacing

Section 306-1.5.1 of the Standard Specifications is hereby amended by revising the fourth paragraph thereof to read:

On improvements being constructed in existing paved streets, a temporary bituminous resurfacing which may be required but cannot be ascertained in advance. This shall include furnishing, placing, maintaining, removing and disposing of such temporary resurfacing materials.

Section 306-5 Abandonment of Conduits and Structures

Section 306-5 of the Standard Specifications is hereby amended by adding to the end of the section:

All salvageable manhole frames and covers and other metal appurtenances shall be delivered by the contractor at his expense to one of the following Los Angeles County Sewer Maintenance District Yards:

1129 East 59th Street, Los Angeles, California 90001, (213) 233-3300
2849 South Myrtle Avenue, Irwindale, California 91707, (818) 446-3271
45712 Division Street, Lancaster, California 93534, (805) 942-6042
12015 Shoemaker Avenue, Santa Fe Springs, California 90670, (310) 941-7011

PART III
ADDED PROVISIONS

Section A-1 Provisional Permits for New Subdivisions

In new subdivisions where sewers are constructed in streets that will be paved, and when the sewer system has been satisfactorily completed so that only the street paving and the adjustment of manhole frames to finish grade remains to be done, and if an approved sewage outlet is available, then provisional permits to connect houses in the subdivision to the sewer system may be issued by the Engineer in accordance with the following procedure and requirements:

1. When the sewer system has been constructed in accordance with the plans and specifications and has been inspected, tested and found satisfactory by the Engineer, and when all that remains to be done prior to final inspection and acceptance is the street paving and final manhole adjustments and sewer cleaning, the Engineer may issue a certificate of partial acceptance pending adjustments and cleaning.

2. After such a certificate of partial acceptance has been issued, provisional permits to connect houses to the sewer system may be issued by the Engineer upon receipt of a letter from the subdivider, accompanied by a waiver form signed by the contractor. The subdivider's letter must state that he will comply with the following conditions and assume responsibility for the protection, operation and maintenance of the sewers:

    a. Install three 4" by 4" posts, eight feet long, set three feet into the ground around the perimeter of all manholes in areas where construction equipment travels or operates, such posts to be maintained in place until the start of final paving operations; or as an alternative to the posts described above, if the manhole is protected against physical damage by equipment, install close-fitting covers of plywood completely covering manhole channel and shelf so that dirt or other material cannot enter the sewer.

    b. Under the supervision of the Engineer, install sand traps per Standard Plan 2018-0 in the first manhole upstream from any operating sewer in such manner that no dirt, sand, or other debris can be washed into or enter the existing sewers in operation.

    c. Maintain in place the sand traps and any channel covers until the final paving is in place and manhole frames have been adjusted to grade, and remove such sand traps and channel covers after final inspection by and in the presence of the Engineer.

    d. Seal the tops of all manholes subject to drainage infiltration in a watertight, manner satisfactory to the Engineer. Such watertight sealing will be maintained in effect until final paving of the immediate area.

After the paving, final manhole adjustments and sewer cleaning are complete and the sewers are inspected and found satisfactory, the Engineer will issue a certificate of final acceptance and recommend to the Board that the sewers be accepted for public use. Upon acceptance, the provisional permits will be considered permanent.

CRITERIA FOR USE OF PVC SEWER PIPE

I. Plastic pipe material and placement must comply with the Special Provisions for the Construction of Private Contract Sanitary Sewers.

II. Special performance items within these Special Provisions include the following:

A. PVC pipe must meet the requirements of Section 207-17 of the Standard Specifications for Public Works Construction except as modified by the Special Provisions. Special attention should be given to the following:

1. Testing must be performed in an approved laboratory in accordance with Section 207-17.4 of the Standard Specifications.

2. Certification by the approved laboratory is required for each pipe delivery.

3. The pipe must be marked in accordance with Section 207-17.2.1 of the Standard Specifications.

B. The maximum permitted longitudinal pipe deflection is 5%.

C. Mandrels certified for size by the Los Angeles City Testing Laboratory must be provided and mandrel tests must be conducted in accordance with Section 306-1.2.13 of the Standard Specifications as amended by the Special Provisions before work can be accepted.

1. The specified average inside diameter for PVC pipe is obtained by using pipe dimensions from Table 1 of ASTM Standard D3034 and the following formula:

$$ID_{avg.} = O.D._{avg.} - 2(t_{min.})$$

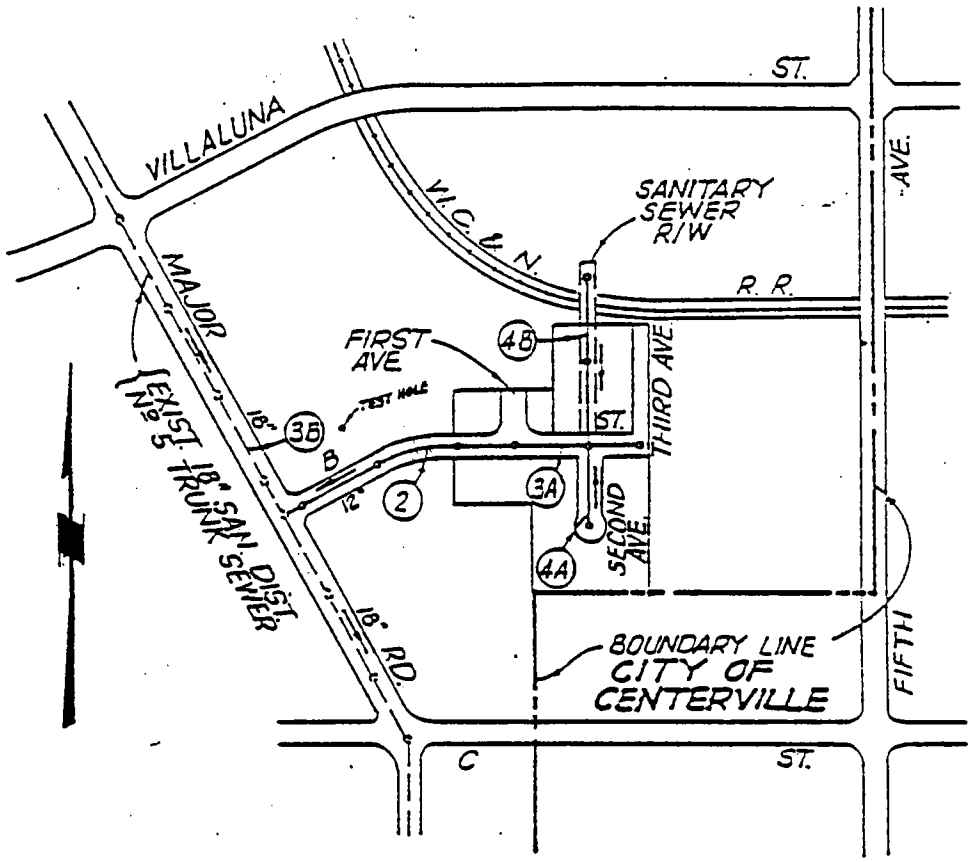
Where:

$ID_{avg.}$ = Average pipe inside diameter

$O.D._{avg.}$ = Average pipe outside diameter, from Table 1 (ASTM D3034)

$t_{min.}$ = Minimum wall thickness, from Table 1 (ASTM D3034)

8½"



1"

11"

NOTES

NUMBERS IN CIRCLES INDICATE PAGE NUMBERS

SHOW NEAREST MAJOR STREETS

USE 8½" x 11" VELLUM

¼"

INDEX MAP
(NAME OF JOB)
P.C. _____
T.G. _____
SCALE: 1" = 600'

APPROVED:

T. A. TIDEMANSON
DIRECTOR - DEPT. OF P.W.

by _____ Date _____

R.E. Nº _____

DEPARTMENT OF PUBLIC WORKS

46-44

B.M._____ ELEV._____

_____QUAD. 19___

GENERAL NOTES:

1. ELEVATIONS ARE ON DATUM OF 1929.
2. NO REVISIONS SHALL BE MADE ON THESE PLANS WITHOUT THE APPROVAL OF THE COUNTY ENGINEER.
3. NO REPRESENTATIVE OF THE COUNTY ENGINEER WILL SURVEY OR LAY OUT ANY PORTION OF THE WORK.
4. GRADES TO WHICH THIS SEWER LIGHT IS TO BE CONSTRUCTED ARE SHOWN ON PLANS AND PROFILES. GRADE POINTS FOR TOP OF CURBS, CENTER LINE OF STREETS, OR CENTER LINE OF ALLEYS ARE SHOWN BY CIRCLES ON PROFILES AT ALL POINTS BETWEEN BEING MARKED POINTS THE GRADE SHALL BE ESTABLISHED SO AS TO CONFORM TO A STRAIGHT LINE DRAWN BETWEEN SAID DESIGNATED POINTS.
5. THE PRIVATE ENGINEER SHALL FURNISH THE COUNTY INSPECTOR WITH GRADE SHEETS AND STATIONING FOR ALL HOUSE LATERALS SHOWN "X" ON "Y" DIAGRAMS AND SHALL PROVIDE STAKES FOR THEIR AT THEIR PROPER LOCATIONS WITH STATIONING, PLAINLY MARKED. ALL HOUSE LATERALS SHALL BE CONSTRUCTED ON A STRAIGHT ALIGNMENT AT RIGHT ANGLES FROM THE MAIN LINE SEWER EXCEPT AS SHOWN ON THE PLANS. HOUSE LATERALS FROM CURVED MAINS SHALL NOT HAVE AN ANGLE OF LESS THAN 45° WITH THE MAIN LINE SEWER. ANY CHANGE IN ALIGNMENT SHALL BE APPROVED IN WRITING BY THE PRIVATE ENGINEER.
6. THE PRIVATE ENGINEER SHALL FURNISH THE HOUSE LATERAL DEPTH AT THE PROPERTY LINE BELOW THE TOP OF CURB ELEVATION FOR EACH HOUSE LATERAL ON THE GRADE SHEET.
7. BEFORE WORK CAN BE STARTED, THE CONTRACTOR SHALL OBTAIN A PERMIT TO EXCAVATE IN COUNTY STREETS FROM THE L.A. COUNTY ROAD DEPT., DISTRICT OFFICE NO. _____, LOCATED AT 900 S. FREMONT AVE. LOS ANGELES, CALIFORNIA 90022. TO SECURE THIS PERMIT HE SHALL HAVE COMPLETED AND FILED WITH THE COUNTY ENGINEER A PERMIT APPLICATION.
8. IF WORK IS TO BE DONE ON A STATE HIGHWAY, A PERMIT SHALL BE OBTAINED FROM THE STATE OF CALIFORNIA, DIVISION OF HIGHWAYS, 120 SOUTH SPRING STREET, LOS ANGELES, CALIFORNIA.
9. APPROVAL OF THESE PLANS BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR ON THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY LINE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT THAT MAY BE AFFECTED BY THE WORK PERFORMED HEREUNDER.
10. REFER TO SECTION 7-1.04 OF THE STANDARD SPECIFICATIONS, REGARDING SAFETY ORDERS.
11. PRIOR TO THE ISSUANCE OF THE REQUIRED SEWER CONSTRUCTION PERMIT, THE CONTRACTOR SHALL OBTAIN AND FILE WITH THE COUNTY ENGINEER'S COPIES OF A PERMIT TO EXCAVATE IN COUNTY STREETS FROM THE LOS ANGELES COUNTY ROAD DEPARTMENT, A COPY OF THE CONSTRUCTION AREA TRAFFIC CONTROL PLANS FROM THE STATE OF CALIFORNIA, DIVISION OF INDUSTRIAL SAFETY AND A CERTIFICATE OF INSURANCE SATISFACTORY TO THE COUNTY ENGINEER.

SEE SAMPLE PLAN [ENCLOSURE]

PLANS TO BE PREPARED ON LINEN

CONSTRUCTION NOTES:

1. SEWER SHALL BE CONSTRUCTED ACCORDING TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1973 EDITION, SEWER _____, SUPPLEMENTING AND CHANGING DIAGRAMS, SPECIAL PROVISIONS FOR THE CONSTRUCTION OF SANITARY SEWERS DATED _____ AND SHALL BE MODIFIED ONLY IN THE PRESENCE OF THE COUNTY ENGINEER.
2. THE CONTRACTOR SHALL NOTIFY THE ENVIRONMENTAL DEVELOPMENT DIVISION BY TELEPHONE, 968-3581, AT LEAST TWENTY FOUR HOURS BEFORE STARTING ANY WORK SHOWN ON THIS SHEET.
3. HOUSE LATERALS TO BE CONSTRUCTED WITH RISERS AT PROPERTY LINE 4 FEET ABOVE CURB GRADE EXCEPT AS NOTED.
4. WYE OR TEE DIAMONDS MAY BE USED FOR CONNECTIONS TO DIAMOND SEWERS EXCEPT AS NOTED.
5. ALL STRAIGHTWAY SHALL BE SEWER PIPE DIAMONDS PER I.S. ON PRECAST CONCRETE DIAMONDS PER I.S. EXCEPT AS NOTED.
6. RECTANGULAR STACKS ON THE PROPERTY LINE OR PROPERTY LINES PROVIDED AT RIGHT ANGLES TO THE SEWER LINE AT THE CENTER LINE OF EACH DIAMOND.
7. DIAMOND TOPS TO BE CONSTRUCTED CLOSED AT TOP TO BE ON THE GRADE ABOVE PROPOSED GRADE.
8. STANDARD CLAY PIPE JOINED SHALL BE TYPE "B", "F", OR "G" PER STANDARD SPECIFICATIONS SECTION 208-2.
9. IF A HOUSE SHALL BE WITHIN THREE FEET OF THE SEWER, THE SEWER SHALL BE ENCASED PER I.S. CASE II, TWO JOINTS EACH SIDE FROM THE POINT OF INTERFERENCE.
10. IF DURING THE COURSE OF CONSTRUCTION IT IS DETERMINED SHALL THERE IS LESS THAN FOUR FEET OF COVER OVER THE TOP OF A MAIN SHOWN HOUSE LATERAL Y.C.P. SEWER WHICH IS NOW INDICATED ON THE PLANS, THE PIPE SHALL BE ENCASED PER I.S. CASE II UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER.
11. ALL JOINTS BETWEEN CAST IRON PIPE AND STANDARD CLAY PIPE SHALL BE MADE WITH A SHEAR RUBBER RING, TYPE "C" OR "D", PIPE JOINING BY MATERIALS PER STANDARD SPECIFICATIONS, SECTION 208-8.
12. REFUSE TO BE REMOVED PER STANDARD SPECIFICATIONS SECTION 209-1.2 OR AS STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
13. EXCAVATION AND TRENCHING WITHIN PAVED AREAS TO BE DONE L.A. COUNTY ROAD DEPT. OR CALIFORNIA STATE HIGHWAY REQUIREMENTS OR ACCORDANCE WITH PERMITS.
14. FOR COMPLIANCE WITH SECTION 306-1.6 OF THE SPECIAL PROVISIONS, WILL BE APPLIED FOR BACKFILL IN STREETS, CONSTRUCTION OF BACKFILL COMPACTION AND SAND EQUIVALENTS BY A QUALIFIED, REGISTERED TESTING LABORATORY SHALL BE PERFORMED BY THE PERMITTEE PRIOR TO THE ISSUANCE OF A CERTIFICATE OF FINAL ACCEPTANCE.
15. ORIGINAL GRADE WILL BE CAREFULLY RESTORED, THE BACKFILL TAMPED AND REPLACE OTHER EARTH SO AS TO ASSURE THE NATURAL OR PROVIDED DRAINAGE AND SLOPES SHOWN ON THE GRADING PLAN APPROVED FOR THIS DEVELOPMENT BY THE ENGINEER. A SURETY BOND(S) SATISFACTORY TO ALL SURETIES AND EQUIVALENT TO 100% OF THE ESTIMATED COST OF GRADING (EXCEPT FOR A C.E.C. 6TH ORDER OF TEST BORE LOT AS DESCRIBED HEREIN) IS TO BE POSTED WITH THE COUNTY ENGINEER. THE AMOUNT OF SAID BOND(S) SHALL BE DETERMINED BY THE ENGINEER AND APPROVED BY THE COUNTY ENGINEER. THE FURNISHING OF SAID BOND(S) SHALL BE REQUIRED BEFORE THE ENVIRONMENTAL DEVELOPMENT DIVISION SHALL GRANT CLEARANCE FOR ISSUANCE OF GRADING PERMITS.

PROFILE, ALIGNMENT AND GRADE OF

SANITARY SEWERS

PAGE 1

TO BE CONSTRUCTED IN

PRIVATE CONTRACT NO.

W.S.

_____SHEETS; _____PAGES

SCALE: HOR. 1"=40' VERT. 1"=4' , 197

PREPARED IN THE OFFICES OF

BY:_____

REG. C. E. No._____

THE FOLLOWING LISTED SEWER STANDARD PLANS ON FILE IN THE OFFICE OF THE COUNTY ENGINEER SHALL APPLY IN THE CONSTRUCTION OF THIS PROJECT:

SEWERS	S-1
SEWERS IN PUBLIC SAFETY IMPROVEMENTS	S-2
SEWER DIAMONDS	S-3
STANDARD DIAMOND STEP	S-39
SEWERS FOR SEWER PIPE	S-40
CLEANOUTS AND BREAKAWAYS	S-42
WYE OR TEE SUPPORT	S-44
ADJUSTING MANHOLE FRAMES	S-45
EXISTING DIAMOND FRAME AND COVER	S-50
NON-REINFORCED PRECAST CONCRETE DIAMONDS	S-51

COUNTY OF LOS ANGELES, CALIFORNIA

STEPHAN J KOONCE, COUNTY ENGINEER — JOHN D. FARNUMBEE, CHIEF ENGINEER

APPROVED_____ (ASSISTANT ENGINEER) (DATE) — APPROVED_____ (SURVEY ENGINEER)

CHECKED_____ (CLERK)

REG. C.E. NO._____

_____BLDG. DIST. _____ I. M._____

P. C._____PAGE _____

REVIEWED BY_____ DATE ___

47-45

SAMPLE PLANS

41-46

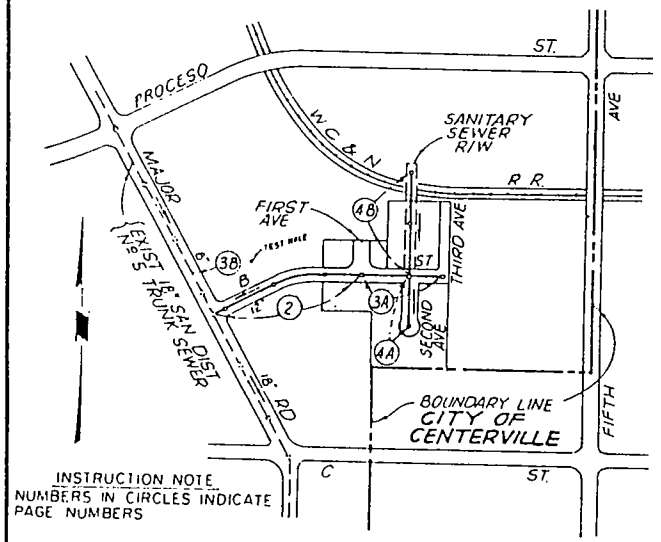
B.M. ME 55 ELEV. 110.803

NORTHWEST CORNER 'C' STREET AND MAJOR ROAD L & T 5 FT W OF W END OF CURB RETURN

MALIBU QUAD. 19 78

INSTRUCTION NOTE

AN ACCEPTABLE BENCH MARK IS TO BE SHOWN ON ALL PLANS
NO EQUATIONS BETWEEN BENCH MARK AND PLAN DATUM AUTHORIZED



INSTRUCTION NOTE
NUMBERS IN CIRCLES INDICATE PAGE NUMBERS

INDEX MAP
P.C. 13000 TR. NO. 50000
SCALE: 1"=600'
THOMAS GUIDE PG ____

GENERAL INSTRUCTION NOTES

IF IN A CONTRACT CITY CHANGE THE WORD "COUNTY TO CITY"
SUB-MINIMUM GRADES TO BE USED ONLY WITH PERMISSION OF THE DEPARTMENT OF PUBLIC WORKS
DOUBLE SCALE IN THE PROFILE MUST BE APPROVED BY THE DIRECTOR OF PUBLIC WORKS (ALL PAGES MUST USE SAME SCALE)
PLACE MANHOLES ON EVEN STATIONS OR 25 FT. STATIONS WHERE PRACTICABLE
MAXIMUM MANHOLE DISTANCE TO BE 350 FEET

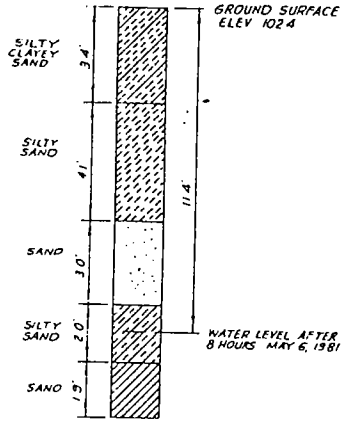
INSTRUCTION NOTE

IF IT IS NECESSARY TO JOIN TWO PAGES OF TRACING CLOTH TO MAKE A STANDARD SIZE SHEET, IT IS REQUIRED THAT THE JOINT BE MADE BY LAPPING THE EDGES 1/2 INCH AND SEWING SECURELY. PLANS SHALL CONSIST OF STANDARD SIZE SHEETS ONLY.

INSTRUCTION NOTE

SEWER GRADES

PIPE SIZE	MINIMUM	SUB-MINIMUM
4" & 6"	2.00%	NOT ALLOWED
8"	0.40%	0.24%
10"	0.32%	0.20%
12"	0.24%	0.16%
15"	0.16%	0.12%
18"	0.14%	0.08%
21"	0.12%	0.08%
24"	0.10%	0.08%



TEST HOLE DATA
NE COR 'B' ST. & MAJOR RD

INSTRUCTION NOTE
TEST BORING REQUIRED ON REQUEST OF THE DEPT OF PUBLIC WORKS

DOUBLE SCALE
(WHEN APPLICABLE)
SEE NOTE BELOW
* SEE GENERAL NOTE BELOW

STANDARD PLANS

JACKING PIPE	S-37
RECTANGULAR SHALLOW M.H	S-7
RECTANGULAR M.H FRAME & COVERS	S-16
PRECAST CONCRETE SHALLOW M.H	S-32

IN ADDITION THE FOLLOWING COUNTY SANITATION DISTRICT STANDARDS SHALL APPLY TO THE CONSTRUCTION OF THIS PROJECT

STD MANHOLE TYPE 'D'	S-a-204
STD 24" M.H FRAME & COVERS	S-a-207

INSTRUCTION NOTE

A.B.S, A.B.S COMPOSITE, OR P.V.C PIPE MAY BE USED IN LIEU OF V.C.P IF IT CONFORMS TO THE CONDITIONS OF USAGE CONTAINED IN "PART IV, PLASTIC SEWER PIPE" OF THE "SPECIAL PROVISIONS FOR THE CONSTRUCTION OF SANITARY SEWERS." SPECIAL APPROVAL MUST BE OBTAINED FROM THE SANITARY ENGINEERING SECTION BEFORE USING ANY MATERIALS OTHER THAN V.C.P. EITHER PLANS MUST BE APPROVED SHOWING THE ALTERNATE PIPE MATERIAL OR A LETTER MUST BE SUBMITTED BY THE DESIGN ENGINEER REQUESTING THE USE OF THE ALTERNATE MATERIAL.

PLAN REVISION NOTE
(WHEN APPLICABLE)

REVISION No. _____ DATE _____

(DESCRIPTION OF REVISION IN FULL INCLUDING PAGE NUMBER(S) AND STATION INVOLVED.)

APPROVED _____
DEPT OF PUBLIC WORKS

(WHEN APPLICAB

SEE NEXT PAGE

SAMPLE PLANS

SEE PREVIOUS PAGE

GENERAL NOTES:

1 ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. SEA LEVEL DATUM OF 1929

2 NO REVISIONS SHALL BE MADE IN THESE PLANS WITHOUT THE APPROVAL OF THE DIRECTOR OF PUBLIC WORKS.

3 NO REPRESENTATIVE OF THE DEPARTMENT OF PUBLIC WORKS WILL SURVEY OR LAY OUT ANY PORTION OF THE WORK.

4 GRADES TO WHICH THIS IMPROVEMENT IS TO BE CONSTRUCTED ARE SHOWN ON PLANS AND PROFILES. GRADE POINTS FOR TOP OF CURBS, CENTER LINE OF STREETS, OR CENTER LINE OF ALLEYS ARE SHOWN BY CIRCLES ON PROFILES. AT ALL POINTS BETWEEN DESIGNATED POINTS THE GRADE SHALL BE ESTABLISHED SO AS TO CONFORM TO A STRAIGHT LINE DRAWN BETWEEN SAID DESIGNATED POINTS.

5 THE PRIVATE ENGINEER SHALL FURNISH THE DEPARTMENT OF PUBLIC WORKS WITH GRADE SHEETS AND STATIONING FOR ALL HOUSE LATERALS AND "Y" OR "T" BRANCHES AND SHALL PROVIDE STAKES FOR THEM AT THEIR PROPER LOCATIONS WITH STATIONING PLAINLY MARKED. ALL HOUSE LATERALS SHALL BE CONSTRUCTED IN A STRAIGHT ALIGNMENT AT RIGHT ANGLES FROM THE MAIN LINE SEWER EXCEPT AS SHOWN ON THE PLANS. HOUSE LATERALS FROM CHIMNEYS SHALL NOT HAVE AN ANGLE OF LESS THAN 45° WITH THE MAIN LINE SEWER. ANY CHANGE IN ALIGNMENT SHALL BE REQUESTED IN WRITING BY THE PRIVATE ENGINEER.

6 THE PRIVATE ENGINEER SHALL FURNISH THE HOUSE LATERAL DEPTH AT THE PROPERTY LINE BELOW THE TOP OF CURB ELEVATION FOR EACH HOUSE LATERAL ON THE GRADE SHEET.

7 BEFORE WORK CAN BE STARTED, THE CONTRACTOR MUST OBTAIN A PERMIT TO EXCAVATE IN COUNTY STREETS FROM THE ~~ROAD ELEMENT~~ PERMIT CONST. DIV. OF THE LOS ANGELES DEPARTMENT OF PUBLIC WORKS ~~DISTRICT~~ OFFICE NO. 6, AND PAY A FEE TO THE DIRECTOR OF PUBLIC WORKS. ~~900 S. Fremont Ave., Los Angeles~~ 900 S. FREMONT AVE., ALHAMBRA, CALIF. 91803 - 8TH FLOOR, CALIFORNIA ~~90012~~ TO COVER THE COST OF CONSTRUCTION INSPECTION AND RECORD PLANS.

8 IF WORK IS TO BE DONE IN A STATE HIGHWAY A PERMIT MUST BE OBTAINED FROM THE STATE OF CALIFORNIA, DIVISION OF HIGHWAYS, 120 SOUTH SPRING STREET, LOS ANGELES, CALIFORNIA.

9 APPROVAL OF THIS PLAN BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OF OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL PAGES.

10 REFER TO SECTION 7.10.4.1 OF THE STANDARD SPECIFICATIONS, REGARDING SAFETY ORDERS.

11 PRIOR TO THE ISSUANCE OF THE REQUIRED SEWER CONSTRUCTION PERMIT, THE CONTRACTOR SHALL OBTAIN AND FILE WITH THE DEPARTMENT OF PUBLIC WORKS COPIES OF A PERMIT TO EXCAVATE IN COUNTY STREETS FROM THE ROAD ELEMENT AT THE DEPARTMENT OF PUBLIC WORKS, A PERMIT FOR EXCAVATIONS AND TRENCHES FROM THE STATE OF CALIFORNIA, A DIVISION OF INDUSTRIAL SAFETY AND A CERTIFICATE OF WORKER'S COMPENSATION INSURANCE WITH THE DEPARTMENT OF PUBLIC WORKS, ~~3470 VERMONT AVE., LOS ANGELES~~, CALIFORNIA ~~90027~~ NAMED AS THE CERTIFICATE HOLDER TO BE NOTIFIED 30 DAYS PRIOR TO CANCELLATION OF POLICY.
900 S. FREMONT AVE.
ALHAMBRA, CALIF. 91803
8TH FLOOR

CONSTRUCTION NOTES:

1 WORK SHALL BE CONSTRUCTED ACCORDING TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (198 EDITION) ~~SUPPLEMENTS~~ AND ~~COUNTY ENGINEER~~ SPECIAL PROVISIONS FOR THE CONSTRUCTION OF SANITARY SEWERS DATED SEPT 21, 1976, AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE ~~COUNTY ENGINEER~~ DEPT. OF PUBLIC WORKS.

2 THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION DIVISION BY TELEPHONE, ~~328-8361~~ (818) 458-3129 AT LEAST TWENTY-FOUR HOURS BEFORE STARTING ANY WORK UNDER THIS CONTRACT.

3 HOUSE LATERALS TO BE CONSTRUCTED WITH INVERTS AT PROPERTY LINE 8 FEET BELOW CURB GRADE EXCEPT AS NOTED.

4 WYE OR TEE BRANCHES MAY BE USED FOR CONNECTIONS TO MAIN LINE SEWERS EXCEPT AS NOTED.

5 ALL STRUCTURES SHALL BE EITHER BRICK SEWER MANHOLES PER S-3 OR PRECAST CONCRETE SEWER MANHOLES PER S-36, EXCEPT AS NOTED.

6 PROVIDE STAKES ON THE PROPERTY LINE OR PROPERTY LINES PRODUCED AT RIGHT ANGLES TO THE SEWER LINE AT THE CENTER LINE OF EACH MANHOLE.

7 MANHOLE TOPS IN UNIMPROVED RIGHTS OF WAY TO BE SIX INCHES ABOVE FINISHED GRADE.

8 VITRIFIED CLAY PIPE JOINTS SHALL BE TYPE "O" OR "G" PER STANDARD SPECIFICATIONS SECTION 208-2.

9 IF A POWER POLE IS WITHIN THREE FEET OF THE SEWER, THE SEWER SHALL BE ENCASED, PER S-23, CASE II, TWO FEET ON EACH SIDE FROM THE POINT OF INTERFERENCE.

10 IF DURING THE COURSE OF CONSTRUCTION IT IS DETERMINED THAT THERE IS LESS THAN FOUR FEET OF COVER OVER THE TOP OF A MAIN LINE OR HOUSE LATERAL V.C.P. SEWER WHICH IS NOT INDICATED ON THE PLANS, THE PIPE SHALL BE ENCASED PER S-23, CASE II UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

11 ALL JOINTS BETWEEN CAST IRON PIPE AND VITRIFIED CLAY PIPE SHALL BE MADE WITH A RUBBER SLEEVE JOINT TYPE "C" OR "D", WITH BUSHING IF NECESSARY PER STANDARD SPECIFICATIONS, SECTION 208-2.

12 SEWERS TO BE TESTED FOR LEAKAGE PER SECTION 306-1.4 OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

13 RESURFACE ALL TRENCHES WITHIN PAVED AREAS TO MEET LOS ANGELES COUNTY PUBLIC WORKS OR CALIFORNIA STATE HIGHWAY REQUIREMENTS IN ACCORDANCE WITH PERMITS.

14 FULL COMPLIANCE WITH SECTION 306-1.3.5 OF ~~THE SPECIAL PROVISIONS~~ 4 STD SPECIFICATIONS WILL BE REQUIRED FOR BACKFILL IN STREETS. CERTIFICATION OF BACKFILL COMPACTION AND SAND EQUIVALENTS BY A QUALIFIED REGISTERED TESTING LABORATORY SHALL BE PROVIDED BY THE PERMITTEE PRIOR TO THE ISSUANCE OF A CERTIFICATE OF PARTIAL ACCEPTANCE.

15 SPECIAL BACKFILL IN EASEMENT CONSTRUCTION: A) BACKFILL TRENCH AND REPLACE OTHER EARTH SO AS TO ACHIEVE THE NATURAL OR FINISHED GRADES AND SLOPES SHOWN ON THE GRADING PLAN APPROVED FOR THIS DEVELOPMENT BY THE ~~BUILDING AND SAFETY~~ LAND DEVELOPMENT DIVISION. B) ALL BACKFILL AND EARTH REPLACED SHALL BE COMPACTED TO A MINIMUM OF 90% OF MAXIMUM DENSITY PER A.S.T.M. STD METHOD OF TEST D698-57T AS MODIFIED. ACCEPTABLE CERTIFICATION OF SUCH COMPACTION SHALL BE SUBMITTED TO THE CONSTRUCTION DIVISION, PUBLIC WORKS DEPT.

PROFILE, ALIGNMENT AND GRADE OF

SANITARY SEWERS

TO BE CONSTRUCTED IN

TRACT NO. 50000

PRIVATE CONTRACT NO. 13000

(INDEX)

2 SHEETS; 4 PAGES

REGISTERED ENGINEER — EXP. ____ — STATE OF CALIFORNIA

SCALE: VERT. 1" = 4'
HORIZ. 1" = 40'

, 198

PREPARED IN THE OFFICES OF
COMPANY'S NAME
ADDRESS

BY: _____

REG. C.E. No. 001871 EXP. DATE ____

INSTRUCTION NOTE
PLANS MUST BE SIGNED BEFORE BEING SUBMITTED

THE FOLLOWING LATEST REVISED STANDARD PLANS ON FILE IN THE OFFICE OF THE DEPARTMENT OF PUBLIC WORKS SHALL APPLY IN THE CONSTRUCTION OF THIS PROJECT:

	COUNTY
LEGEND	S-1
MINIMUM PUBLIC SAFETY REQUIREMENTS	S-2
BRICK SEWER MANHOLE	S-3
STANDARD MANHOLE STEP	S-17
BEDDING FOR SEWER PIPE	S-21
CRADLING AND ENCASEMENT	S-23
WYE OR TEE SUPPORT	S-26
ALLOWABLE TRENCH WIDTHS	S-33
LOCKING MANHOLE FRAME AND COVER	S-35
NON-REINFORCED PRECAST CONCRETE SEWER MANHOLE	S-36
CHIMNEY	S-27

ADDITIONAL STANDARD PLANS - SHOWN AT LEFT

COUNTY OF LOS ANGELES, CALIFORNIA

THOMAS A. TIDEMANSON
DIRECTOR OF PUBLIC WORKS

APPROVED _____ (DATE)

CHECKED _____ (DATE)

REG. C.E. NO. _____

_____ BLDG. DIST. _____

CHARLES W. CARRY
CHIEF ENGINEER

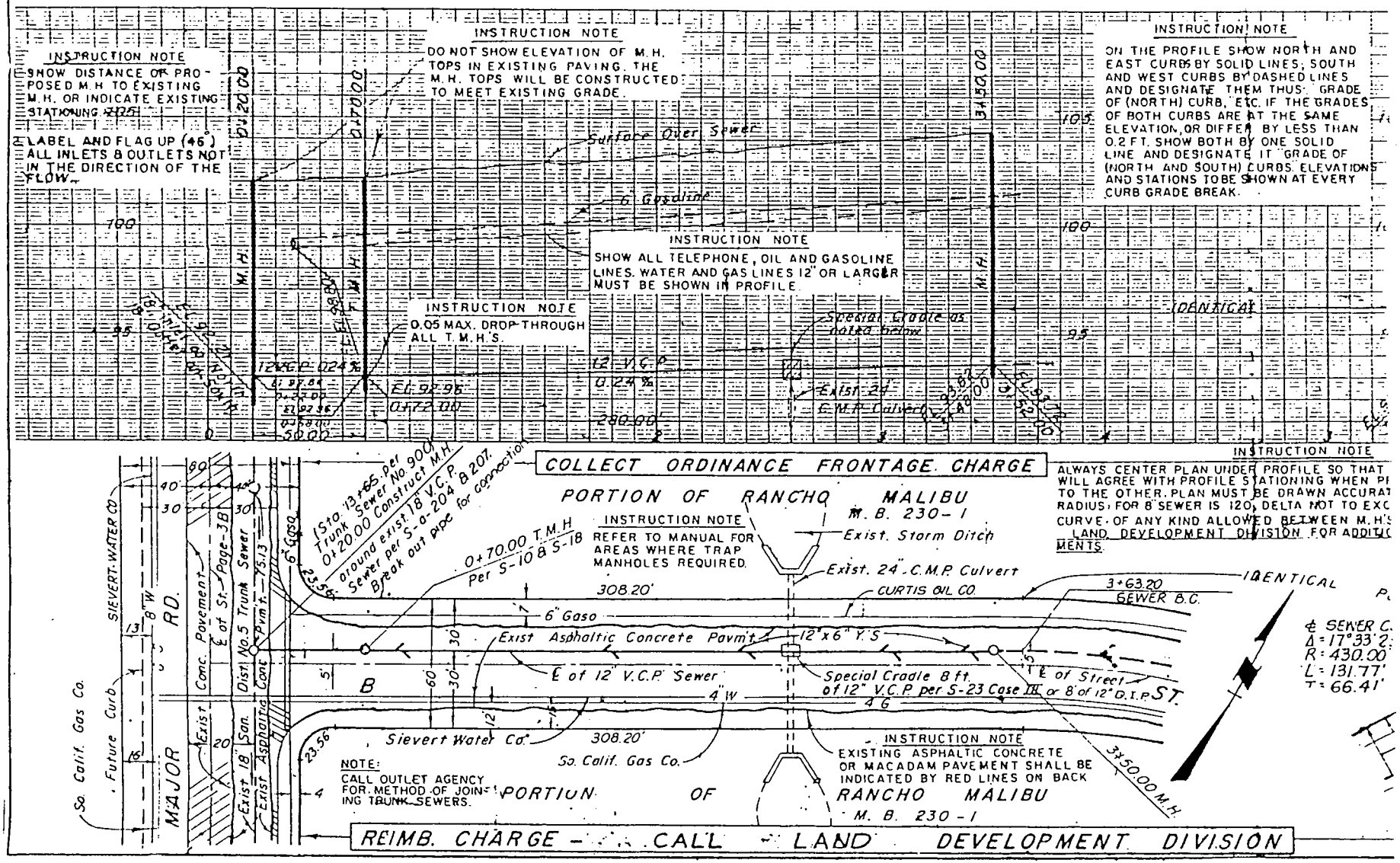
CO. SAN. DIST. NO. _____

APPROVED _____ OFFICE ENGINEER

L4-14

SAMPLE PLANS

46-48



SEE NEXT PAGE

SEE PREVIOUS PAGE

SAMPLE PLANS

P. C. 13000 PAGE 2
REVIEWED BY
DATE
COLLECT CHARGES AS INDICATED
DOUBLE SCALE (WHEN APPLICABLE)
SEE COUNTY SAN. DIST. FOR SPECIAL CONNECTION CHARGES
INSTRUCTION NOTE: EVEN 5FT. ELEVATIONS MUST BE SHOWN AT THESE LOCATIONS.
INSTRUCTION NOTE
0.75 FT. BETWEEN OUTLET ELEV. AND BOTTOM OF STRUCTURE
INSTRUCTION NOTE
SEWER GRADES IN MULTIPLES OF 0.04%
INSTRUCTION NOTE
ELEVATION OF TOPS OF M.H.'S TO BE SHOWN ON PROJECTS WITH APPROVED ROAD GRADES.
INSTRUCTION NOTE
WHERE CLEARANCE IS 0.5 TO 1.5 FEET, ENCASE PER S-23. WHERE CLEARANCE IS LESS THAN 0.5 FEET USE CAST IRON PIPE, PER STANDARD SPECIFICATION, SECTION 207-9
INSTRUCTION NOTE
ALIGNMENT OF PLAN IS PROJECTED FROM ONE LY TO SCALE. MINIMUM D 50' ONLY ONE CONSULT AL CURVE REQUIRE-
PORTION OF RANCHO MALIBU M.B. 230-1
POR OF RANCHO MALIBU M.B. 230-1
NO CHARGE FOR CONNECTION
TRACT
Nº 50000
FIRST AVE.
ST.
Curb line
4" H.L.S.
℄ of St.
℄ of 12" V.C.P. Sewer
8" Stub
Page-34
Existing 10" of 12" V.C.P per S-23 Case II
Encase
Existing Asphaltic Concrete Pvmt.
Exist 48" R.C.P. Irrig. line
Chu Water Co.
6 Gasoline
Surface over Sewer
Grade of North & South Curbs
Exist. R.C.P.
Proposed 12" V.C.P.
Proposed Manhole
Exist. Manhole
Exist. Sewer M.H.
Exist. Sewer B.C.
Exist. Sewer E.C.
Sewer E.C.
Sewer B.C.
Sewer Curve Data
Δ = 7°19' 16"
R = 430.00'
L = 55.03'
T = 27.55'
N.T.S.
Curve Data
3+50.00 M.H.
1+22.80 M.H.
1+63.43
1+94.97
2+69.20
3+19.15
0.20%
0.75%
1.20%
1.00%
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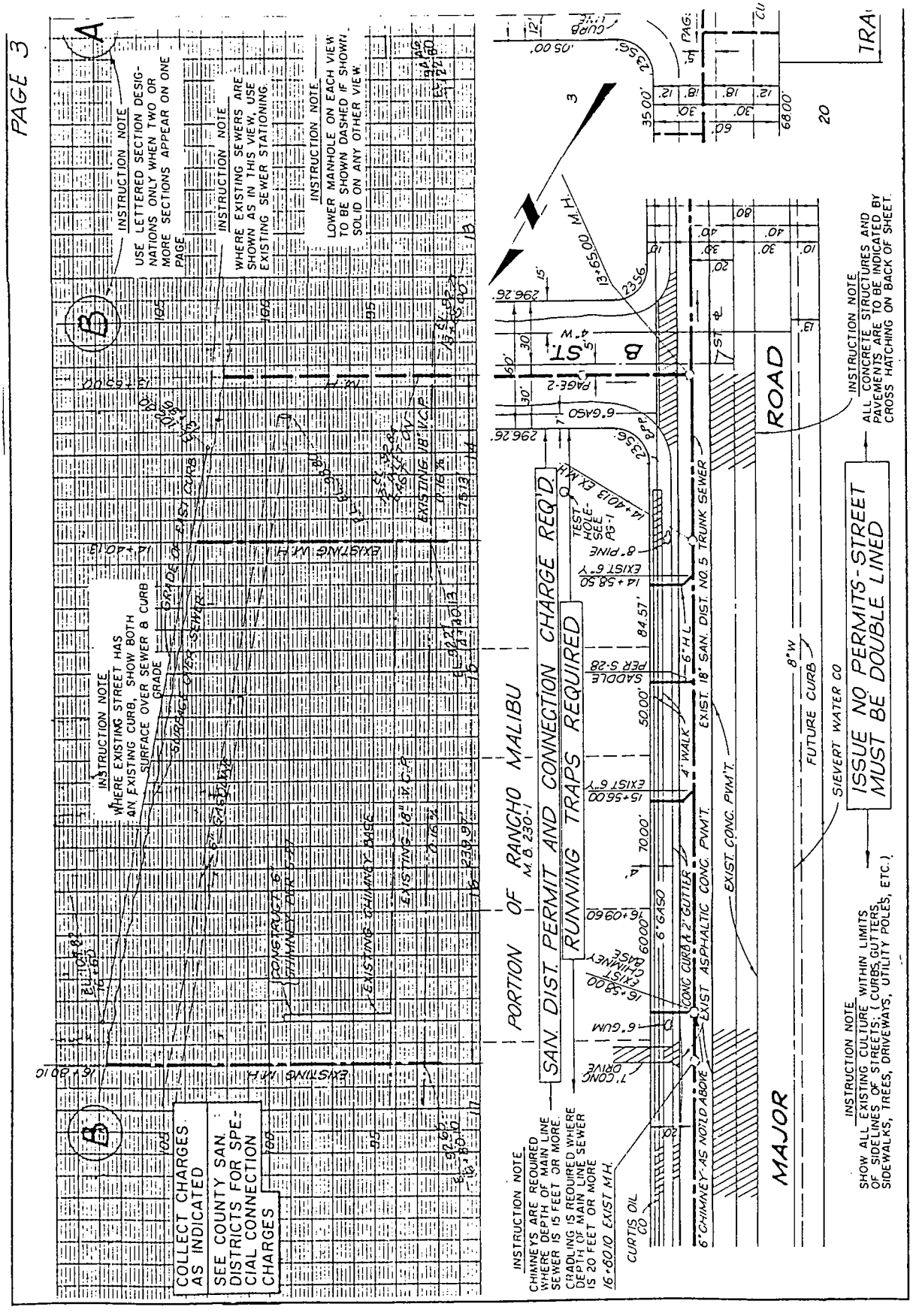
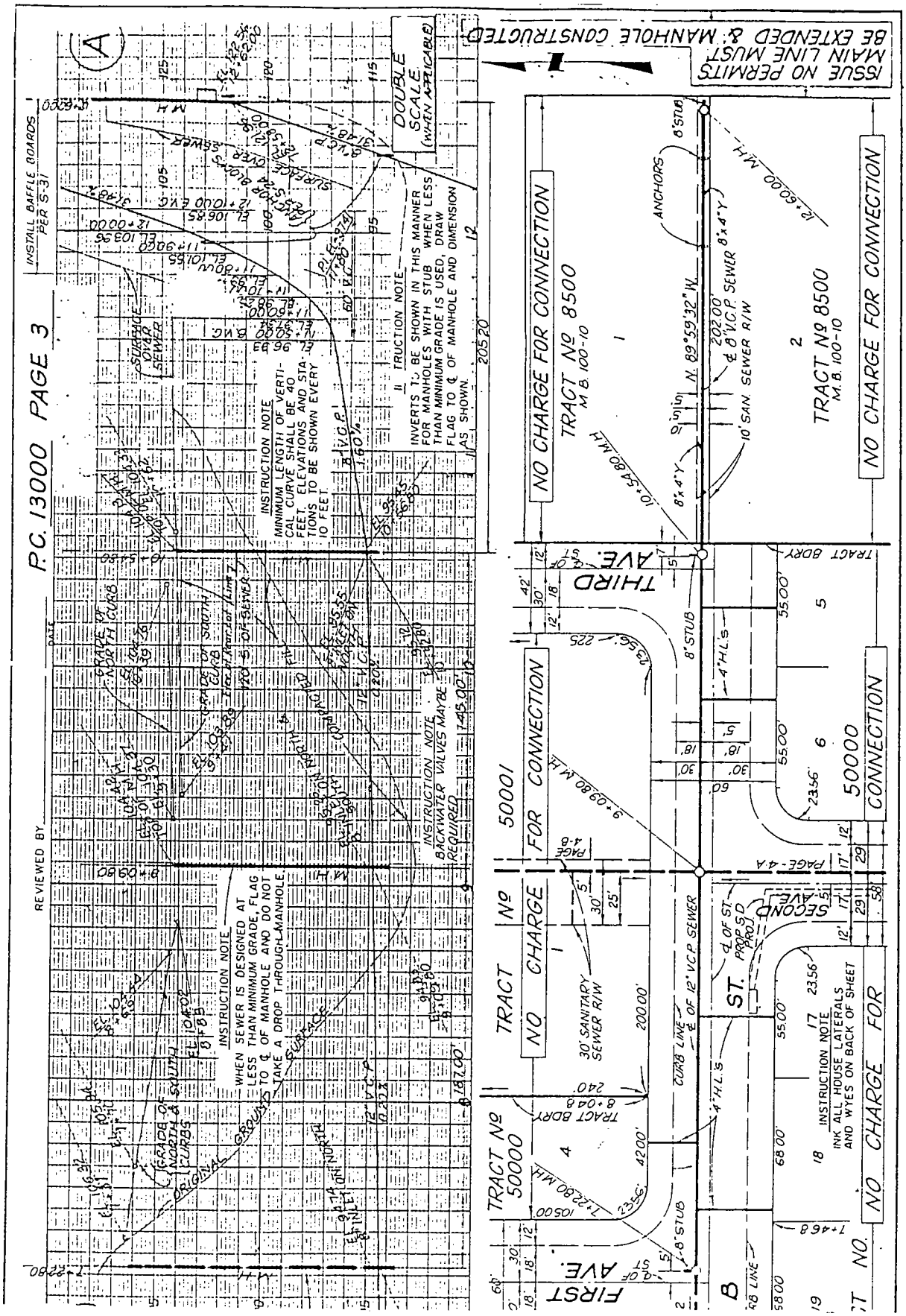
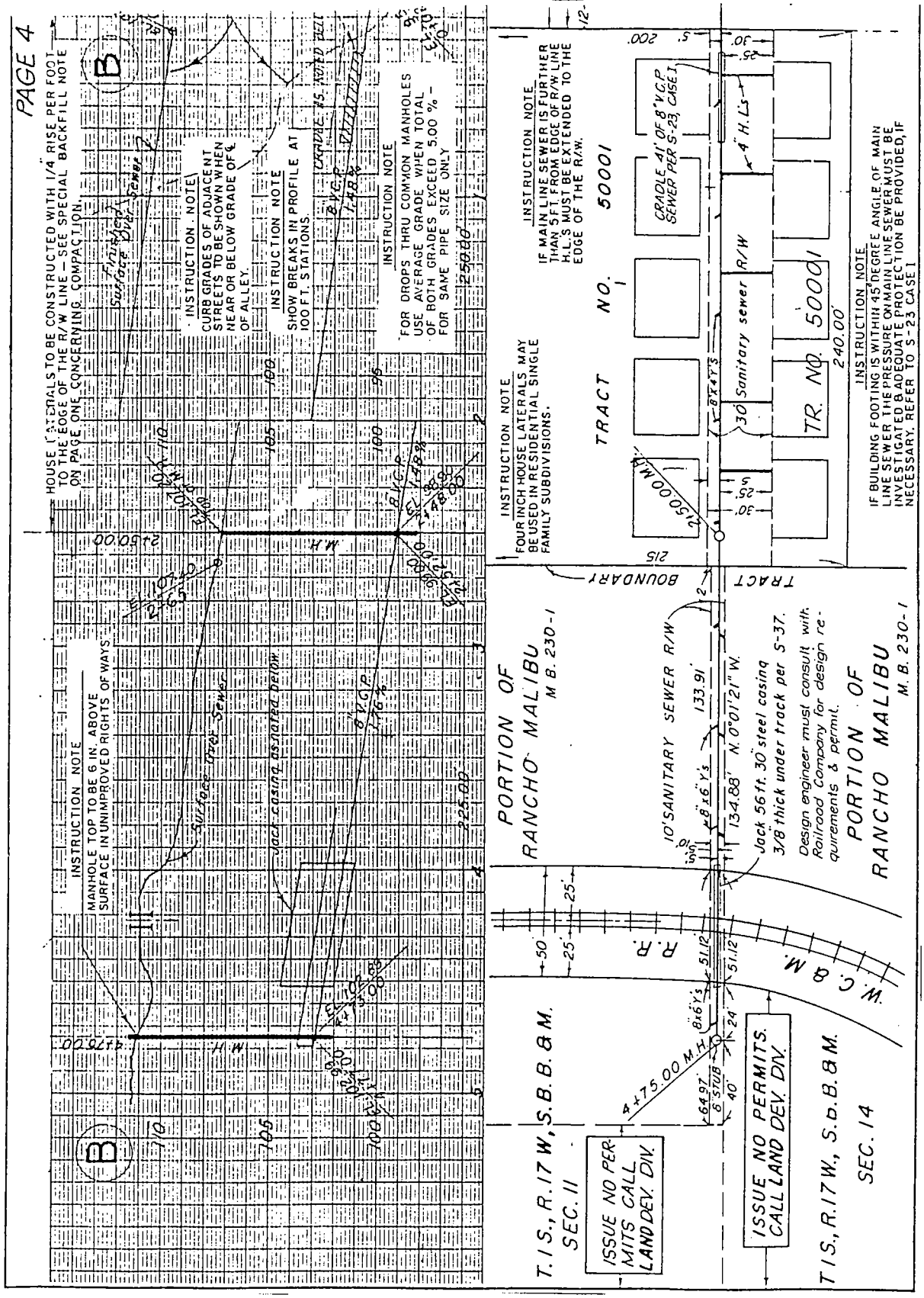


SAMPLE PLANS

46-50


P.C. 13000 PAGE 3
REVIEWED BY
DATE
DOUBLE SCALE (MAIN ARTICLE)
ISSUE NO PERMITS MAIN LINE MUST BE EXTENDED & MANHOLE CONSTRUCTED
INSTALL BAFFLE BOARDS PER S-31
INSTRUCTION NOTE
MINIMUM LENGTH OF VERTICAL CURVE SHALL BE 40 FEET. ELEVATIONS AND STATIONS TO BE SHOWN EVERY 10 FEET
INSTRUCTION NOTE
INVERTS TO BE SHOWN IN THIS MANNER FOR MANHOLES WITH STUB WHEN LESS THAN MINIMUM GRADE IS USED, DRAW FLAG TO ℄ OF MANHOLE AND DIMENSION AS SHOWN.
INSTRUCTION NOTE
WHEN SEWER IS DESIGNED AT LESS THAN MINIMUM GRADE, FLAG TO ℄ OF MANHOLE AND DO NOT TAKE A DROP THROUGH MANHOLE.
INSTRUCTION NOTE
BACKWATER VALVES MAYBE REQUIRED
INSTRUCTION NOTE
INK ALL HOUSE LATERALS AND WYE'S ON BACK OF SHEET
NO CHARGE FOR CONNECTION
TRACT Nº 8500
M.B. 100-10
TRACT Nº 50001
TRACT Nº 50000
FIRST AVE.
SECOND AVE.
THIRD AVE.
30' SANITARY SEWER R/W
10' SAN SEWER R/W
8" V.C.P. SEWER
8" STUB
ANCHORS
CURB LINE
℄ OF 12" V.C.P. SEWER
TRACT BDRY
PROP'S D PROJ
N. 89°59'32" W.
202.00'
200.00'
240'
420'
225'
205.20'
145.00'
187.60'
PAGE 4-A
PAGE 4-B
SEE PREVIOUS PAGE
SAMPLE PLANS

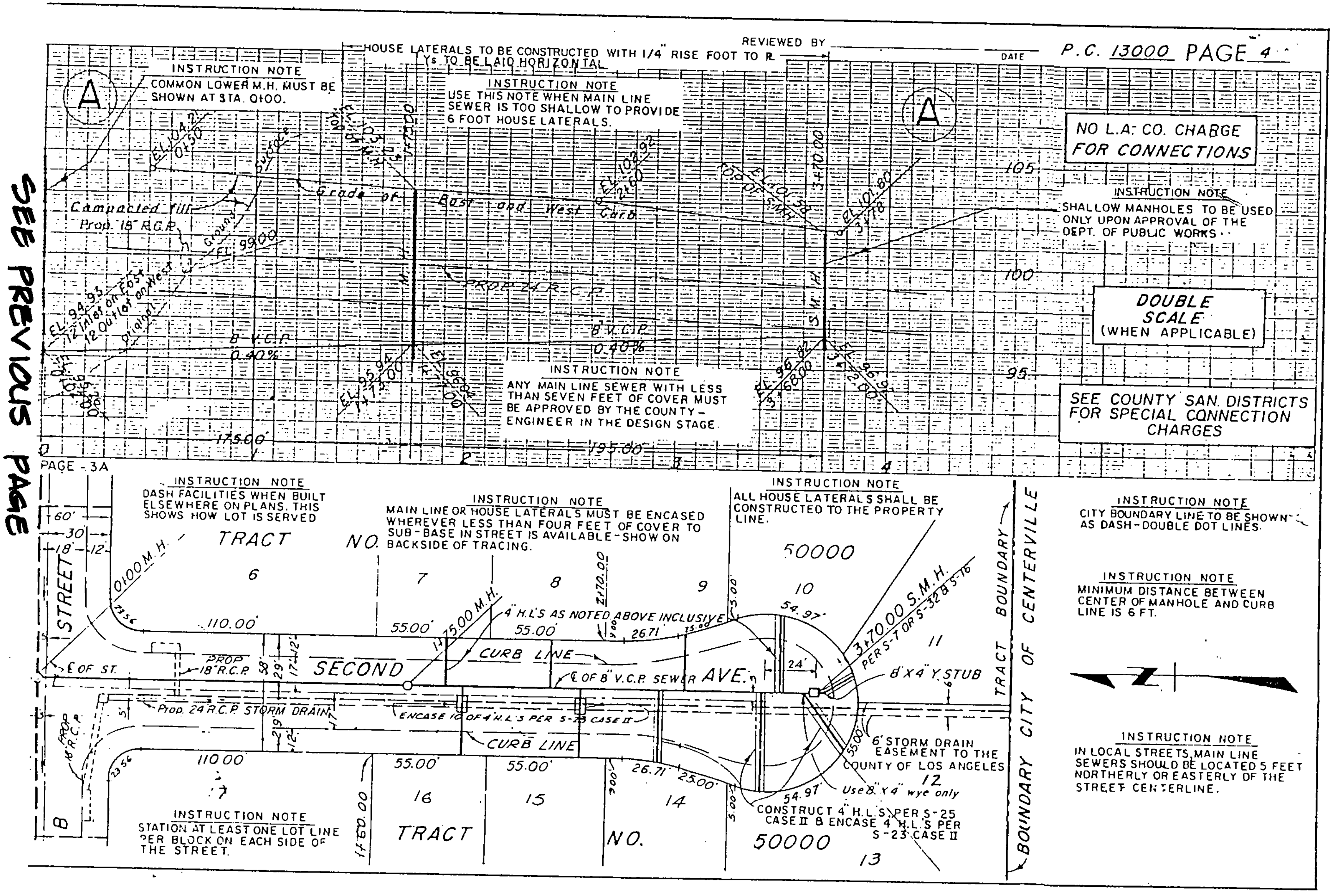
SEE NEXT PAGE



SAMPLE PLANS

46-52

SEE PREVIOUS PAGE
SAMPLE PLANS



REVIEWED BY ____ DATE

P.C. 13000 PAGE 4

HOUSE LATERALS TO BE CONSTRUCTED WITH 1/4" RISE FOOT TO R. Ys TO BE LAID HORIZONTAL

INSTRUCTION NOTE
COMMON LOWER M.H. MUST BE SHOWN AT STA. 0+00.

INSTRUCTION NOTE
USE THIS NOTE WHEN MAIN LINE SEWER IS TOO SHALLOW TO PROVIDE 6 FOOT HOUSE LATERALS.

NO L.A. CO. CHARGE FOR CONNECTIONS

INSTRUCTION NOTE
SHALLOW MANHOLES TO BE USED ONLY UPON APPROVAL OF THE DEPT. OF PUBLIC WORKS.

DOUBLE SCALE
(WHEN APPLICABLE)

INSTRUCTION NOTE
ANY MAIN LINE SEWER WITH LESS THAN SEVEN FEET OF COVER MUST BE APPROVED BY THE COUNTY-ENGINEER IN THE DESIGN STAGE.

SEE COUNTY SAN. DISTRICTS FOR SPECIAL CONNECTION CHARGES

INSTRUCTION NOTE
DASH FACILITIES WHEN BUILT ELSEWHERE ON PLANS. THIS SHOWS HOW LOT IS SERVED

INSTRUCTION NOTE
MAIN LINE OR HOUSE LATERALS MUST BE ENCASED WHEREVER LESS THAN FOUR FEET OF COVER TO SUB-BASE IN STREET IS AVAILABLE-SHOW ON BACKSIDE OF TRACING.

INSTRUCTION NOTE
ALL HOUSE LATERALS SHALL BE CONSTRUCTED TO THE PROPERTY LINE.

INSTRUCTION NOTE
CITY BOUNDARY LINE TO BE SHOWN AS DASH-DOUBLE DOT LINES.

INSTRUCTION NOTE
MINIMUM DISTANCE BETWEEN CENTER OF MANHOLE AND CURB LINE IS 6 FT.

INSTRUCTION NOTE
IN LOCAL STREETS, MAIN LINE SEWERS SHOULD BE LOCATED 5 FEET NORTHERLY OR EASTERLY OF THE STREET CENTERLINE.

INSTRUCTION NOTE
STATION AT LEAST ONE LOT LINE PER BLOCK ON EACH SIDE OF THE STREET.

46-53

PRIVATE CONTRACT SEWER GENERAL NOTES

The following general notes are to be included on Page 1 of all Private Contract Sewer Plans:

1. A sewer construction permit shall be obtained and a fee paid for construction inspection and record plans to the Department of Public Works at the Permit Counter, 900 South Fremont Avenue, 8th Floor, Alhambra, at least 72 hours prior to starting work under this permit. Copies of all other required permits, such as Road Excavation, Caltrans, etc., must be filed with the permit application.

2. Prior to issuance of any permit, the contractor shall file a permit for excavations and trenches from the State of California Division of Industrial Safety, and a Certificate of Worker's Compensation Insurance with the Department of Public Works named as the Certificate Holder to be notified 30 days prior to cancellation of policy.

3. If work is done in a State Highway, a permit must be obtained from the State of California Division of Highways, 120 South Spring Street, Los Angeles, California.

4. When work is within a contract city, the contractor must contact the Director of Public Works of that city, to determine the location to pay the inspection fee.

5. The contractor shall contact the district office listed on the "Application for Construction Permit" to arrange for an acceptable construction start date.

6. Approval of this plan by the County of Los Angeles does not constitute a representation as to accuracy of the location of or the existence or non-existence of any underground utility pipe or structure within the limits of this project. This note applies to all pages.

7. All work shall be in accordance with the latest approved edition of the "Standard Specifications for Public Works Construction, including supplements and the latest Special Provisions for the Construction of Sanitary Sewers and shall be prosecuted only in the presence of the Department of Public Works personnel (see Pages 46-34 through 46-43 for a copy of the special provisions).

8. The contractor's attention is directed to Section 7-10.4.1 of the Standard Specifications for Public Works Construction in regard to safety orders and shall conform to the "Minimum Public Safety Requirements" as shown on Los Angeles Department of Public Works' Standard S-2

9. Elevations are in feet above U.S.C. & G.S. sea level datum of 1929.

10. No revisions shall be made in these plans without the approval of the Director of Public Works.

11. No representative of the Department of Public Works will survey or lay out any portion of the work.

12. Grades to which this improvement is to be constructed are shown on plans and profiles. Grade points for top of curbs, centerline of streets, or centerline of alleys, are shown by circles on profiles at all points between designated points. The grade shall be established so as to conform to a straight line drawn between said designated points.

13. The private engineer shall furnish the Department of Public Works with grade sheets and stationing for all house laterals and "Y" or "T" branches and shall provide stakes for them at their proper locations with stationing plainly marked. All house laterals shall be constructed in a straight

alignment at right angles from the main line sewer except as shown on the plans. House laterals from chimneys shall not have an angle of less than 45 degrees with the M.L. sewer. Any change in alignment shall be requested in writing by the private engineer.

14. The private engineer shall furnish the house lateral depth at the property line below the top of curb elevation for each house lateral on the grade sheet.

15. The latest revised standard plan or drawing shall be used unless otherwise specifically noted.

PRIVATE CONTRACT SEWER PLAN CONSTRUCTION NOTES

The following construction notes are to be included as applicable on Page 1 of all Private Contract Sewer Plans:

1. Provide survey stakes on the property line or property lines produced at right angles to the sewer line at the centerline of each manhole.

2. Vitrified clay pipe joints shall be type "D" or "G" per Standard Specifications Section 208-2.

3. If a power pole is within three feet of the sewer, the sewer shall be encased per Standard Plan 2023-0, Case II, two feet on each side from the point of interference.

4. All joints between cast iron pipe and vitrified clay pipe shall be made with a rubber sleeve joint, Type "C" or "D" (with bushing if necessary) per Standard Specifications Section 208-2.

5. House laterals to be constructed with inverts at the property line 6 feet below curb grade except as noted.

6. Wye or tee branches may be used for connections to mainline sewers except as noted.

7. If during the course of construction, it is determined that there is less than four feet of cover over the top of a mainline or house lateral V.C.P. sewer which is not indicated on the plans, the pipe shall be encased per Standard Plan 2023-0, Case II, unless otherwise approved by the Director of Public Works.

8. All structures shall be either brick sewer manholes per Standard Plan *203 or precast concrete sewer manholes per Standard Plan 2001-0 or reinforced precast concrete manhole per Standard Plan 2003-0 except as noted.

9. Resurface all trenches within paved areas to meet Los Angeles County Public Works or California State Highway requirements in accordance with the permits.

10. Full compliance with Section 306-1.3.4 of the Standard Specifications will be required for backfill in streets. Certification of backfill compaction and sand equivalents by a qualified civil engineer shall be provided by the permittee prior to the issuance of a certificate of partial acceptance.

11. All backfill and fills outside of street right of way shall be compacted to 90% of maximum density as determined by ASTM Soil Compaction Test D 1557-78 Method "D" unless otherwise specified. This shall be certified by a qualified civil engineer. This certification shall be submitted to the Director of Public Works prior to acceptance of the work by the County.

12. a. Manhole tops in unimproved rights of way to be six inches above finished grade.

    b. Manhole tops in improved rights of way to be level with finished grade.

13. Sewers to be tested for leakage per Section 306-1.4 of the Standard Specifications and Special Provisions.

ABS COMPOSITE PIPE STANDARD CONSTRUCTION NOTES

The following are standard ABS Composite Pipe Construction Notes:

1. Full compliance with the Standard Specifications and the special provisions is required for the installation of an ABS composite pipe.

2. Manhole water stop gaskets and clamps are required for the connection of an ABS composite pipe to manhole structures.

3. An ABS solid wall pipe must be used for wye and house lateral connections to an ABS composite mainline sewer pipe.

4. An ABS composite pipe shall be bedded in conformance with the table in Section 306-1.2.1 of the special provisions.

5. Three degree deflection couplers are required for radius of curvature less than 380 feet when using an 8" ABS composite pipe.

6. No connections for disposal of industrial waste is allowed if an ABS composite pipe is used.

7. Sewer line curvature shall not be achieved by pulling of joints or beveling pipe ends when using a plastic pipe including ABS composite pipe.

8. All wyes and/or house laterals are to be located at least five feet apart and when possible not closer than five feet to any manhole.

9. An ABS solid wall pipe is not acceptable for use as mainline sewer.

10. Only wye branches are to be used for connection to an ABS composite mainline sewer pipe.

SANITARY SEWERS

—o— INDICATES SANITARY SEWERS AND MANHOLES TO BE CONSTRUCTED.

---o--- INDICATES EXISTING SANITARY SEWERS AND MANHOLES.

——o—— INDICATES PROPOSED SANITARY SEWERS AND MANHOLES. OR SHOWN ON ANOTHER VIEW.

WYE's & TEE's

INDICATES WYE BRANCH ONLY.

INDICATES TEE OR WYE BRANCH. (OPTION)

HOUSE LATERALS

H.L.'s INDICATES HOUSE LATERALS.

INDICATES HOUSE LATERAL TO BE CONSTRUCTED.

INDICATES EXISTING HOUSE LATERALS.

INDICATES PROPOSED HOUSE LATERAL, OR SHOWN ON ANOTHER VIEW.

CHIMNEY PIPE

(PROFILE) -INDICATES CHIMNEY PIPE PER APWA STANDARD PLAN 220.

(PLAN) -INDICATES CHIMNEY BASE.

(PLAN) -INDICATES A SINGLE AND DOUBLE WYE BRANCH ON CHIMNEY PIPE.

CONCRETE CRADLE OR ENCASEMENT

(PROFILE) -INDICATES CONCRETE CRADLE PER STANDARD PLAN 2023, CASE I.

(PROFILE) -INDICATES CONCRETE ENCASEMENT PER STANDARD PLAN 2023, CASE II.

(PROFILE) -INDICATES SPECIAL CRADLE PER STANDARD PLAN 2023, CASE III.

(PROFILE) -INDICATES SPECIAL ENCASEMENT PER STANDARD PLAN 2023, CASE IV.

(PLAN) -INDICATES CRADLE OR ENCASEMENT PER STANDARD PLAN 2023, ALL CASES.

MANHOLES

INDICATES MANHOLE.

INDICATES MANHOLE WITH ADDITIONAL INLETS.

INDICATES SHALLOW MANHOLE.

GENERAL

ON PLANS INDICATES EXISTING BUILDING.

INDICATES BOUNDARY LINE OF DISTRICT.

INDICATES BOUNDARY LINE OF A CITY.

INDICATES EXISTING CURB.

INDICATES CURB LINE. (FUTURE)

UNDERGROUND UTILITIES

—W— WATER
—G— NATURAL GAS
—GASO— GASOLINE
—T— TELEPHONE
—E— ELECTRICAL

} INDICATES TYPE OF EXISTING UNDERGROUND UTILITIES.

NOTE

ABBREVIATIONS USED ON PLANS, MAPS AND OTHER DOCUMENTS SHALL BE PER SECTION 1-3 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

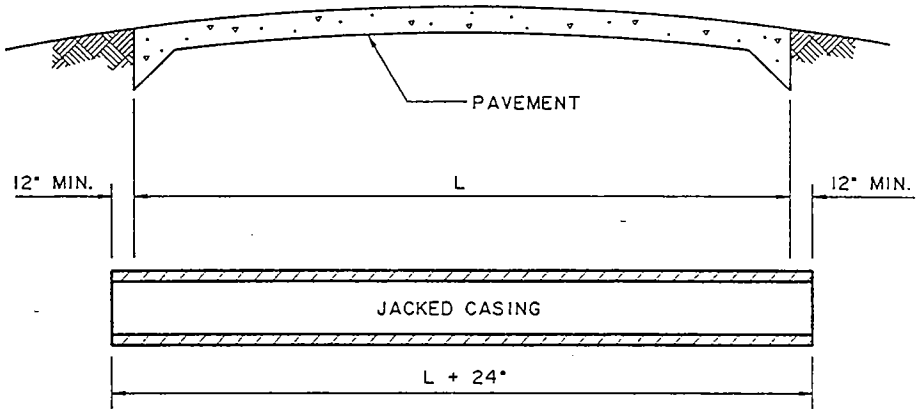
LEGEND FOR SANITARY SEWER PLANS AND PROFILES AND DISTRICT MAPS

STANDARD PLAN 2000-0

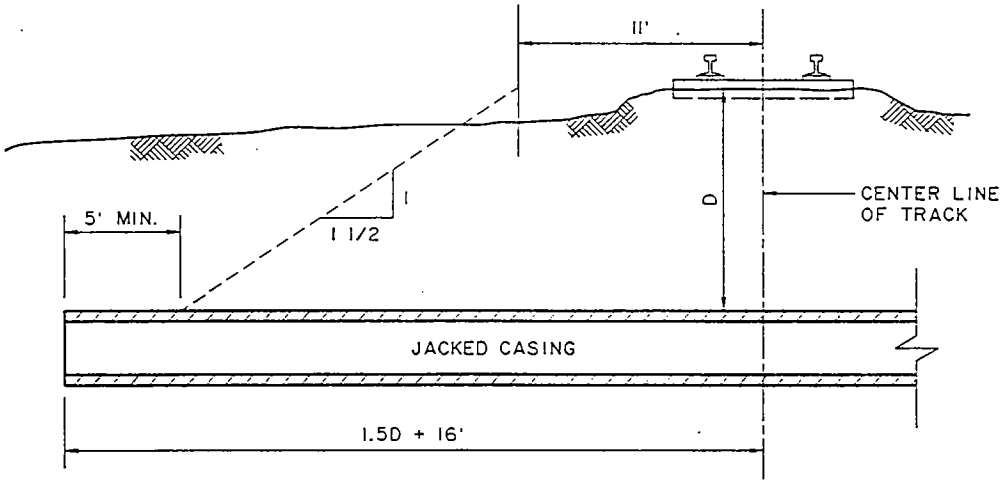
APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SHEET 1 OF 1

SUPERSEDES COUNTY ENGINEER STD. S-1



CROSSING UNDER ROADWAY



CROSSING UNDER RAILROAD

DIAMETER OF STEEL CASING	
PIPE SIZE	CASING DIAMETER
6"	30"
8"	30"-36"
10"	33"-36"
12"	36"-42"
15"	42"-48"

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

JACKING STEEL CASING FOR SEWER PIPE

STANDARD PLAN
2028-0
SHEET 1 OF 2

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD. S-37

46-59-1

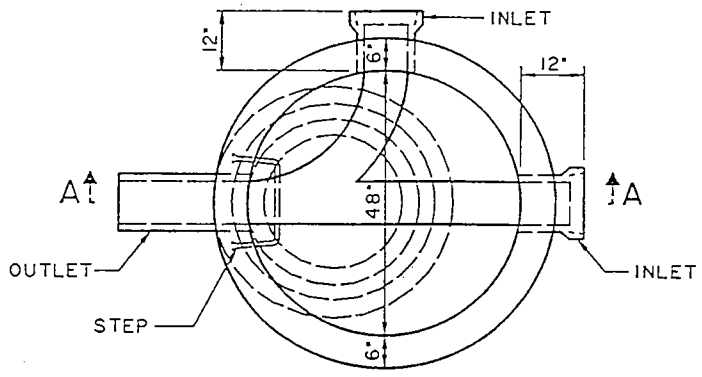
NOTES

1. JACKED STEEL CASING SHALL BE INSTALLED PER SECTION 306-2.3 OF THE STANDARD SPECIFICATIONS.
2. USE TYPE "D", "F" OR "G" JOINTS PER SECTION 208-2 OF THE STANDARD SPECIFICATIONS FOR VCP INSTALLED IN CASING.
3. THE CASING THICKNESS SHALL BE NOT LESS THAN 3/8".
4. FOR PIPE SIZES 18" AND GREATER, CHECK WITH THE DEPARTMENT FOR DIAMETER AND THICKNESS OF CASING.
5. THE LENGTH OF CASING SHALL BE AS SHOWN, EXCEPT AS OTHERWISE INDICATED ON PLANS.
6. ANY ALTERNATE MATERIALS, SIZES OR CONSTRUCTION METHODS MUST BE SPECIFICALLY APPROVED BY THE DEPARTMENT.

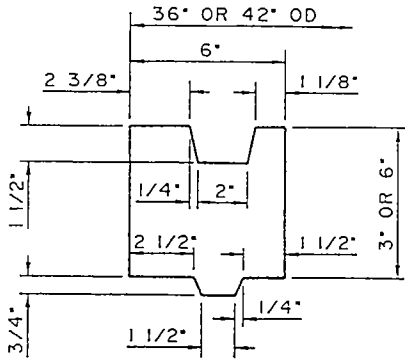
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

JACKING STEEL CASING FOR SEWER PIPE

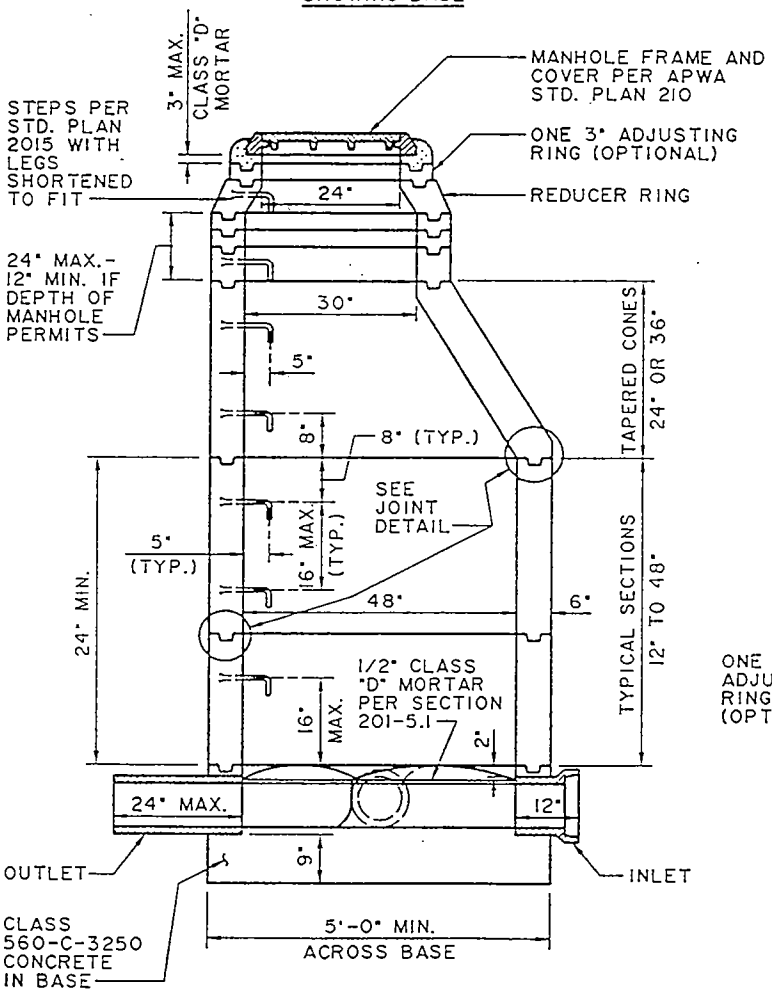
STANDARD PLAN
2028-0
SHEET 2 OF 2



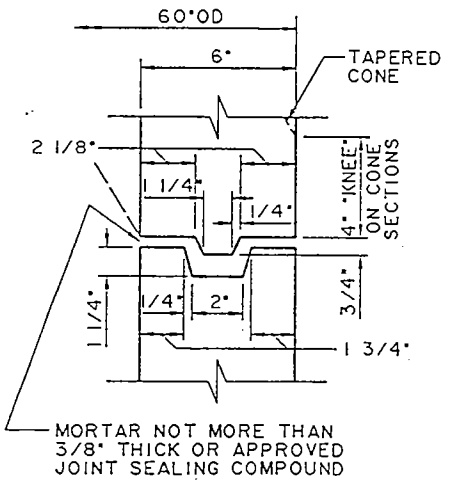
PLAN
SHOWING BASE



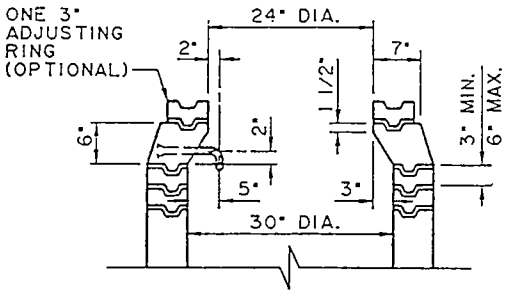
ADJUSTING
RING DETAIL



SECTION A-A



JOINT DETAIL



REDUCER RING AND
ADJUSTING RINGS

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

NON-REINFORCED PRECAST CONCRETE MANHOLE

STANDARD PLAN
2001-0
SHEET 1 OF 2

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD. S-36

46-60-1

NOTES

1. CONCRETE BASE AND STUB WALLS SHALL BE POURED IN ONE OPERATION TO A POINT 2" ABOVE THE INLET AND OUTLET PIPES. ALL PIPES SHALL BE RIGIDLY SUPPORTED BY TEMPORARY PIERS DURING THIS OPERATION. CONCRETE SHALL SET FOR 24 HOURS BEFORE PLACING PRECAST UNITS.

2. CONCRETE FOR ALL PRECAST UNITS SHALL BE COMPACTLY VIBRATED IN THE FORMS. IT SHALL BE CURED ACCORDING TO APPROVED PRACTICE EITHER BY STEAM, SPRINKLING, MEMBRANE SOLUTION, OR A COMBINATION OF THESE. IT SHALL DEVELOP 3500 PSI OR GREATER STRENGTH IN 28 DAYS.

3. STEPS SHALL BE CAST IN PLACE AT TIME OF FABRICATION OR PLACED BETWEEN RINGS WITH 16" MAXIMUM SPACING BETWEEN STEPS.

4. THE DEPTH OF CHANNEL SHALL EQUAL THE PIPE DIAMETER FOR ALL SIZES OF PIPE. FOR SPECIAL CHANNELS IN TRAP OR GAUGING MANHOLES, SEE SPECIAL PLANS.

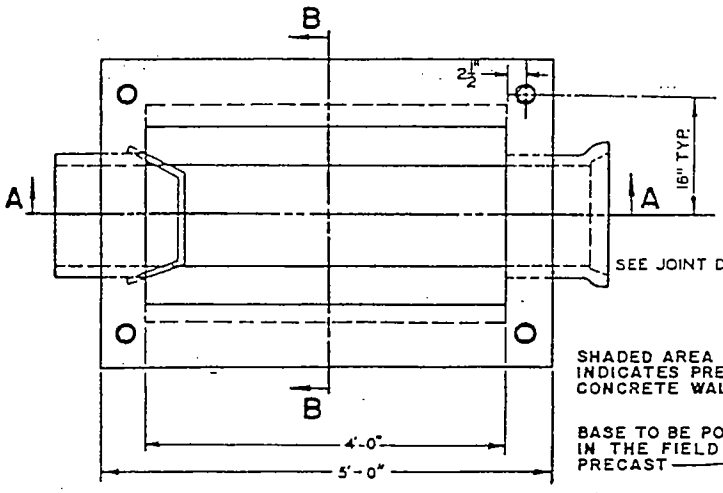
5. THE TOP OF MANHOLE AND THE STEPS SHALL BE PLACED DIRECTLY OVER THE OUTLET OF THE STRUCTURE EXCEPT AS OTHERWISE NOTED ON PROJECT DRAWINGS.

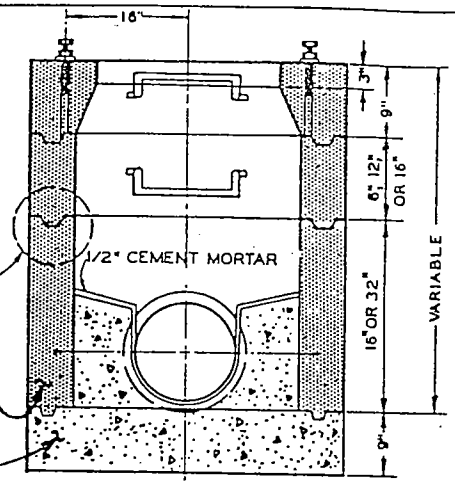
6. MANHOLE STEPS SHALL BE INSTALLED AS PER APWA STANDARD PLAN 635.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

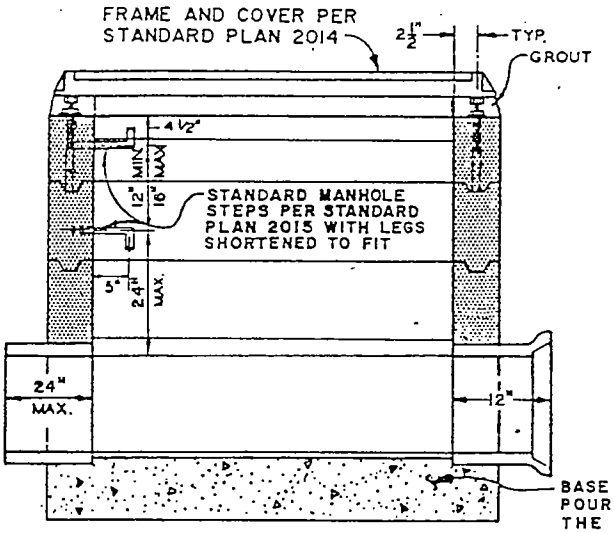
NON-REINFORCED PRECAST CONCRETE MANHOLE

STANDARD PLAN
2001-0
SHEET 2 OF 2

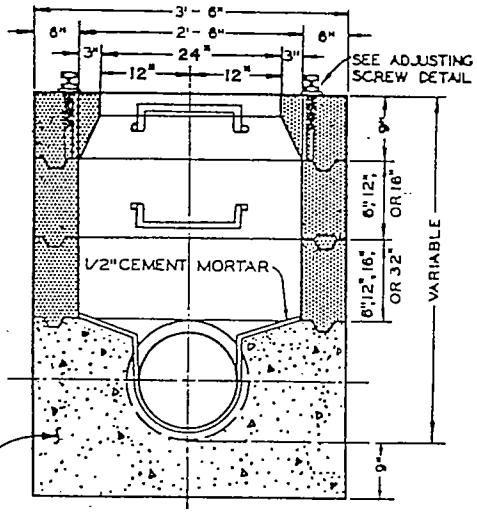




TYPE A
PRECAST BASE SECTION WITH OPENINGS PROVIDED

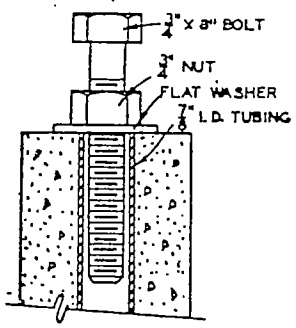


SECTION A-A

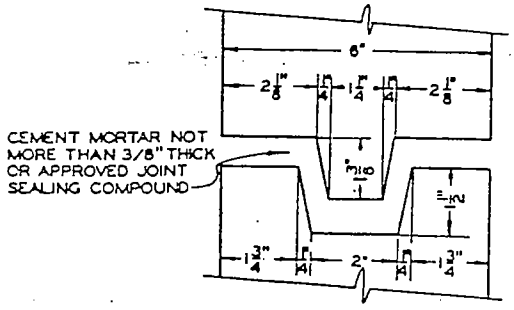


TYPE B
BASE AND CHANNELS POURED MONOLITHICALLY

SECTION B-B



ADJUSTING SCREW DETAIL



JOINT DETAIL

NOTE:

TO BE USED FOR DEPTHS LESS THAN 5'-6" FROM THE TOP OF THE MANHOLE TO THE TOP OF THE SEWER PIPE. DEPARTMENTAL APPROVAL REQUIRED.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PRECAST CONCRETE SHALLOW MANHOLE

STANDARD PLAN
2002-0
SHEET 1 OF 2

APPROVED Thomas A Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-32

46-61-i

NOTES

1. CONCRETE FOR ALL PRECAST UNITS SHALL BE COMPACTLY VIBRATED IN THE FORMS. IT SHALL BE CURED ACCORDING TO APPROVED PRACTICE EITHER BY STEAM, SPRINKLING, MEMBRANE SOLUTION OR A COMBINATION OF THESE. IT SHALL DEVELOP 3500 PSI OR GREATER STRENGTH IN 28 DAYS.

2. THE DEPTH OF CHANNELS SHALL EQUAL THE PIPE DIAMETER FOR ALL SIZES OF PIPE.

3. CHANNEL LOCATIONS AND OFFSETS TO BE PLACED AS SHOWN ON STANDARD PLAN 2004.

4. ALL FIELD POURED CONCRETE TO BE CLASS 520-C-2500 AND ALLOWED TO SET, 24 HOURS BEFORE PLACING PRECAST UNITS.

5. ALL PRECAST UNITS SHALL BE REINFORCED FOR H-20 BRIDGE LOADING.

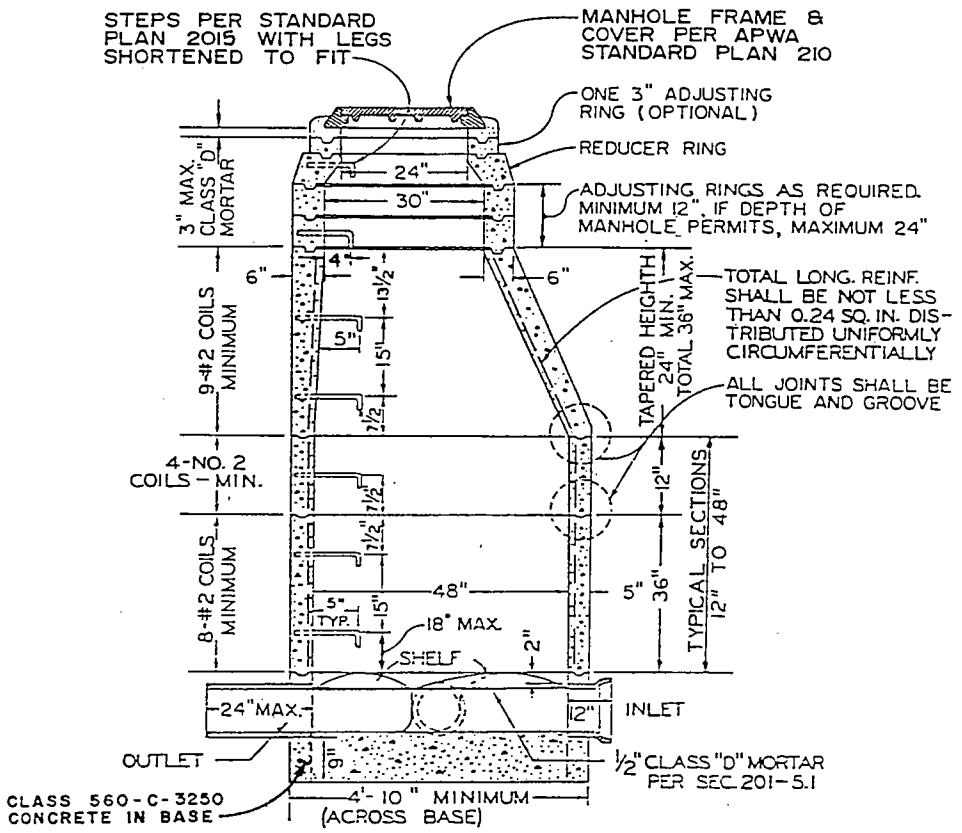
6. ALL CEMENT MORTAR SHOWN SHALL BE CLASS "D" PER SECTION 201-5.1 OF STANDARD SPECIFICATIONS.

7. TO BE USED ONLY UPON APPROVAL OF THE DEPARTMENT.

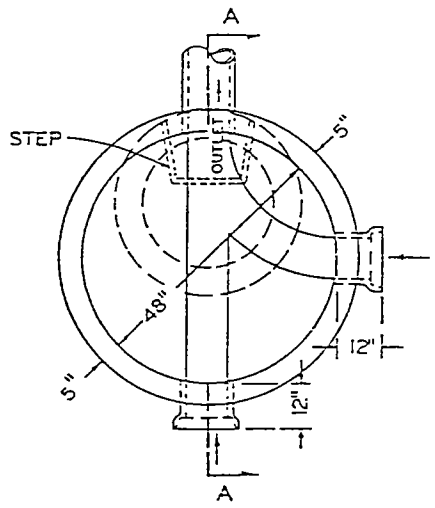
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PRECAST CONCRETE SHALLOW MANHOLE

STANDARD PLAN
2002-0
SHEET 2 OF 2



SECTION A-A



PLAN OF BASE

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

REINFORCED PRECAST CONCRETE MANHOLE

STANDARD PLAN 2003-0

SHEET 1 OF 2

APPROVED Thomas A. Tidemanson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

SUPERSEDES COUNTY ENGINEER STD. S-6

NOTES

1. CONCRETE BASE AND STUB WALLS SHALL BE POURED IN ONE OPERATION TO A POINT 2" ABOVE THE INLET AND OUTLET PIPES. ALL PIPES SHALL BE RIGIDLY SUPPORTED BY TEMPORARY PIERS DURING THIS OPERATION. CONCRETE SHALL SET FOR 24 HOURS BEFORE PLACING PRECAST UNITS.

2. CONCRETE FOR ALL PRECAST UNITS SHALL BE COMPACTLY VIBRATED IN THE FORMS. IT SHALL BE CURED ACCORDING TO APPROVED PRACTICE EITHER BY STEAM, SPRINKLING, MEMBRANE SOLUTION, OR A COMBINATION OF THESE. IT SHALL DEVELOP 3500 PSI OR GREATER STRENGTH IN 28 DAYS.

3. STEPS SHALL BE CAST IN PLACE AT TIME OF FABRICATION OR PLACED BETWEEN RINGS WITH 16" MAXIMUM SPACING BETWEEN STEPS.

4. THE DEPTH OF CHANNEL SHALL EQUAL THE PIPE DIAMETER FOR ALL SIZES OF PIPE. FOR SPECIAL CHANNELS IN TRAP OR GAUGING MANHOLES, SEE SPECIAL PLANS.

5. THE TOP OF MANHOLE AND THE STEPS SHALL BE PLACED DIRECTLY OVER THE OUTLET OF THE STRUCTURE EXCEPT AS OTHERWISE NOTED ON PLANS.

6. CENTRIFUGALLY SPUN UNITS MAY BE USED AT THE OPTION OF THE CONTRACTOR, CONFORMING TO SPECIFICATIONS FOR CENTRIFUGAL CONCRETE PIPE AND TO DETAILS ABOVE.

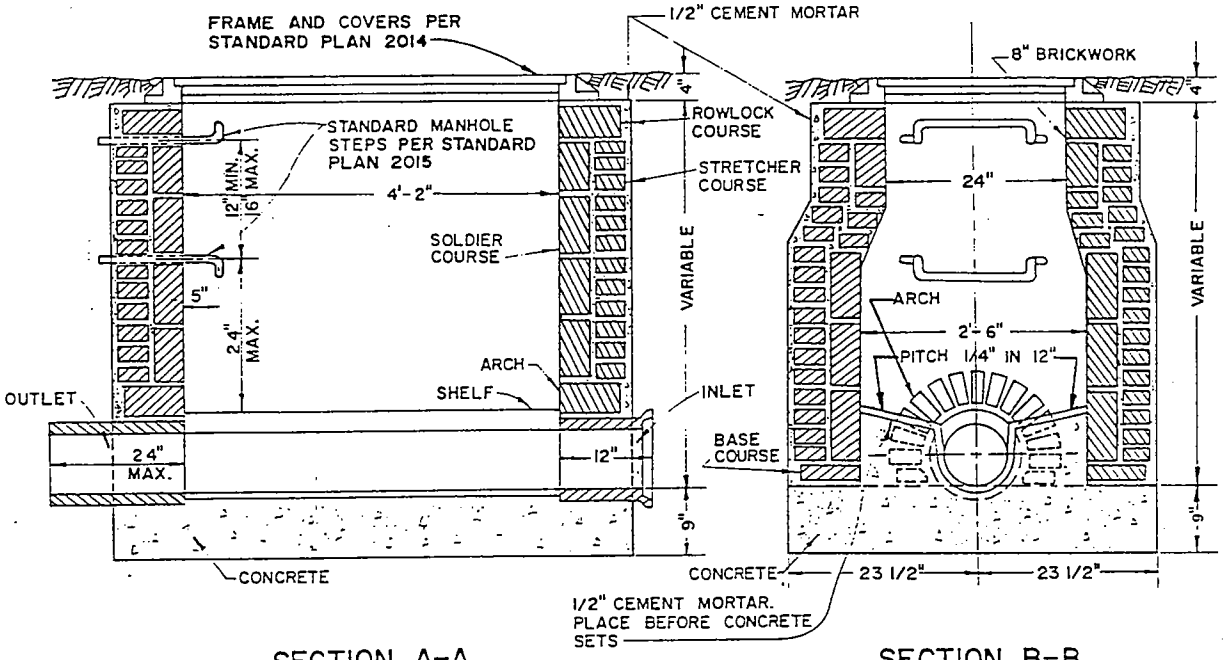
7. CEMENT MORTAR INSIDE JOINTS SHALL BE NEATLY STRUCK AND POINTED AND SHALL NOT EXCEED 3/8" IN THICKNESS.

8. RISER SECTIONS SHALL CONFORM TO ASTM C 478 AND SHALL HAVE A MINIMUM OF 2" OF COVER OVER THE STEEL ON THE INSIDE FACE.

9. AT THE OPTION OF THE CONTRACTOR A REINFORCED PRECAST MANHOLE BASE MAY BE SUBSTITUTED CONFORMING TO STANDARD PLAN 2013.

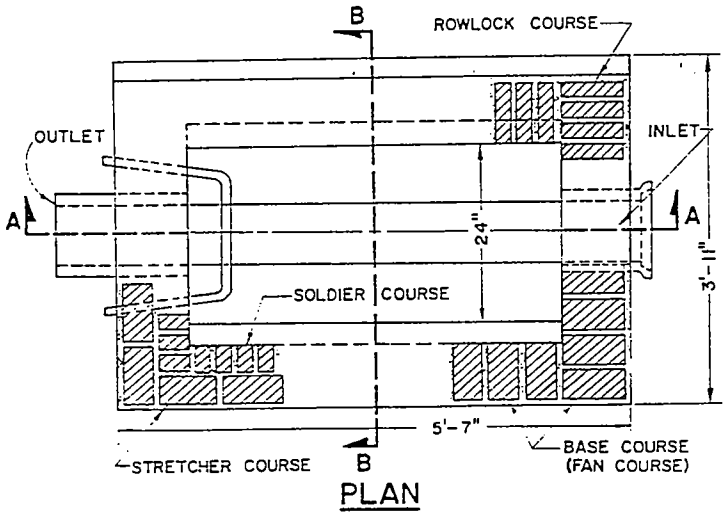
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

REINFORCED PRECAST CONCRETE MANHOLE	STANDARD PLAN 2003-0 SHEET 2 OF 2

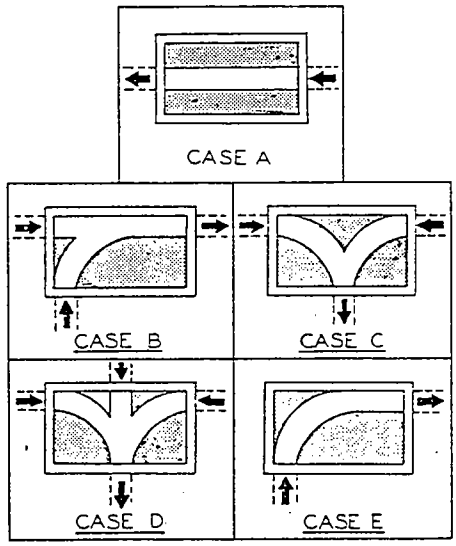


SECTION A-A

SECTION B-B



PLAN



PLACEMENT OF CHANNELS

NOTE: TO BE USED FOR DEPTHS LESS THAN 5 FEET FROM THE TOP OF THE MANHOLE TO THE TOP OF THE SEWER PIPE.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

RECTANGULAR SHALLOW MANHOLE

STANDARD PLAN 2004-0

SHEET 1 OF 2

APPROVED Thomas A Tidemanson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

SUPERSEDES COUNTY ENGINEER STD. S-7

NOTES

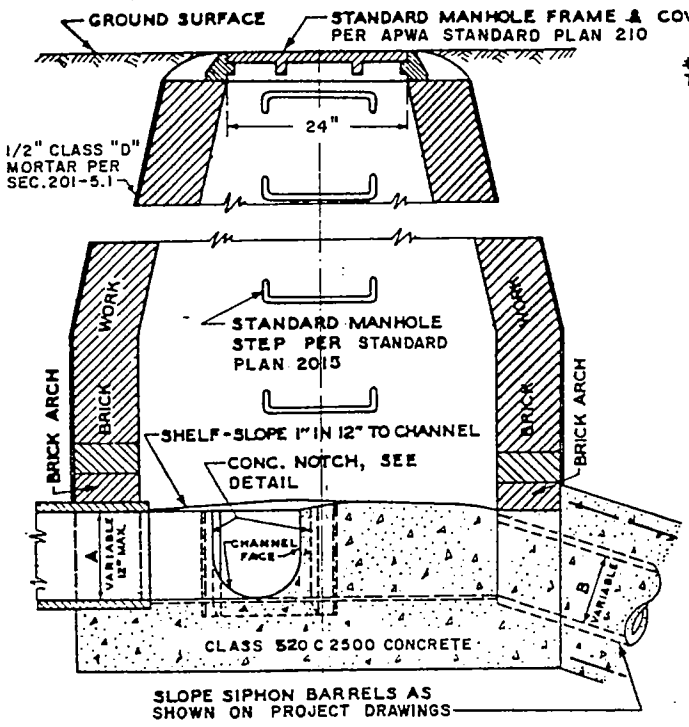
1. THE DEPTH OF CHANNELS SHALL EQUAL THE PIPE DIAMETER FOR ALL SIZES OF PIPE.
2. ALL CONCRETE TO BE CLASS 470-C-2500.
3. ALL CEMENT MORTAR SHALL BE CLASS "D" PER SECTION 201-5.1.
4. TO BE USED ONLY UPON APPROVAL OF THE DEPARTMENT.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

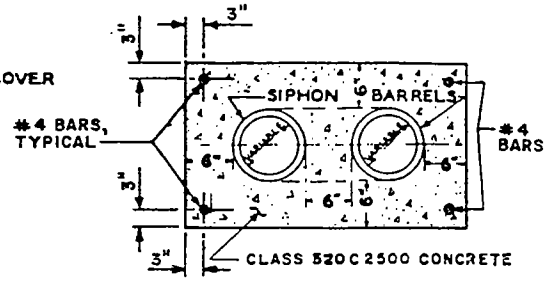
RECTANGULAR SHALLOW MANHOLE

STANDARD PLAN
2004-0
SHEET 2 OF 2

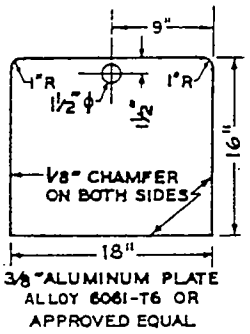
46-63-ii



SECTION A-A



SECTION B-B
PIPE ENCASEMENT

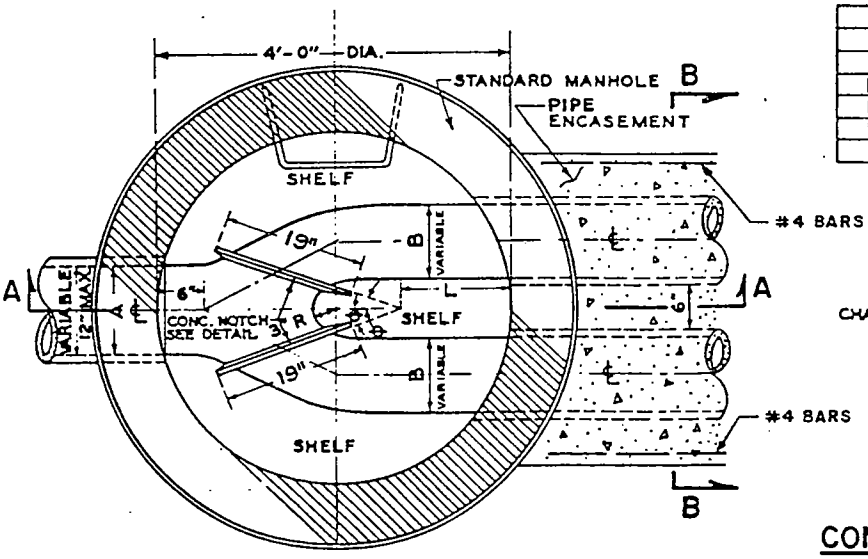


3/8" ALUMINUM PLATE ALLOY 6061-T6 OR APPROVED EQUAL

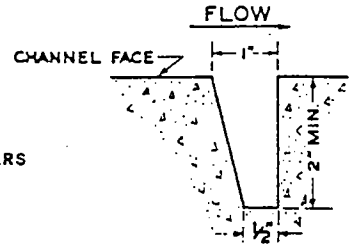
ALUMINUM GATE DETAIL

TABLE OF DIMENSIONS

A	B	L	θ
8"	6"	12½"	13°
8"	8"	12½"	13°
10"	8"	12½"	13°
10"	10"	15¼"	20°
12"	10"	15¼"	20°
12"	12"	18⅜"	30°



PLAN



CONCRETE NOTCH DETAIL
SHOWING SIDES AND BOTTOM

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SIPHON MANHOLE

STANDARD PLAN 2005-0

SHEET 1 OF 2

APPROVED Thomas A Gilmoure 5/31/1992
DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-8

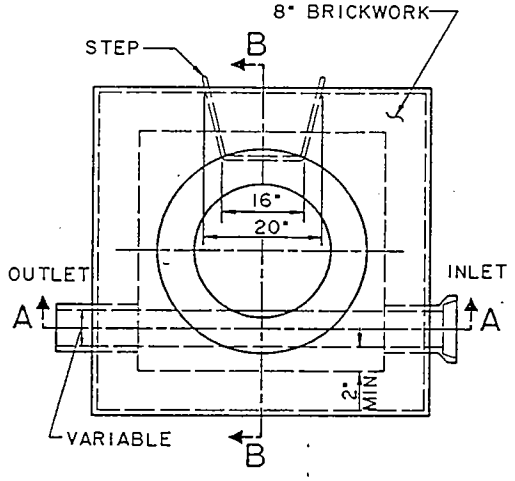
NOTES

1. FOR OTHER MANHOLE DETAILS SEE APWA STANDARD PLAN 203 OR STANDARD PLANS 2001, 2003.
2. USE FOR ANY COMBINATION OF SIZES TO A MAXIMUM OF TWO 12" PIPES.
3. FOR PIPE DIAMETERS GREATER THAN 12", PRIOR APPROVAL FROM THE DEPARTMENT IS REQUIRED.
4. ENCASE SIPHON ONLY TO THE EXTENT SHOWN ON PROJECT DRAWINGS.
5. PROVIDE ONE ALUMINUM GATE WITH EACH SIPHON MANHOLE.
6. THE DOWNSTREAM LEGS OF SIPHON BARRELS SHALL NOT EXCEED A GRADE OF +30.00%.

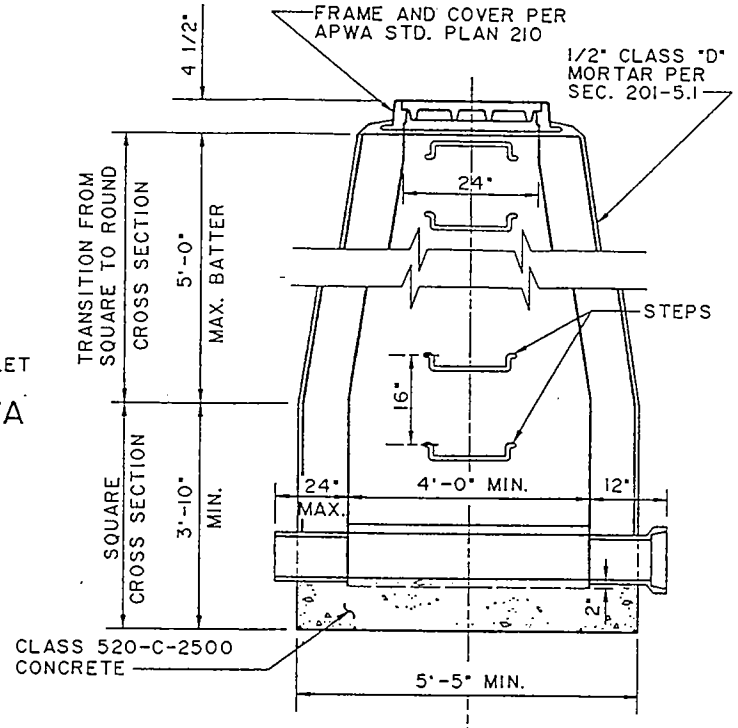
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SIPHON MANHOLE

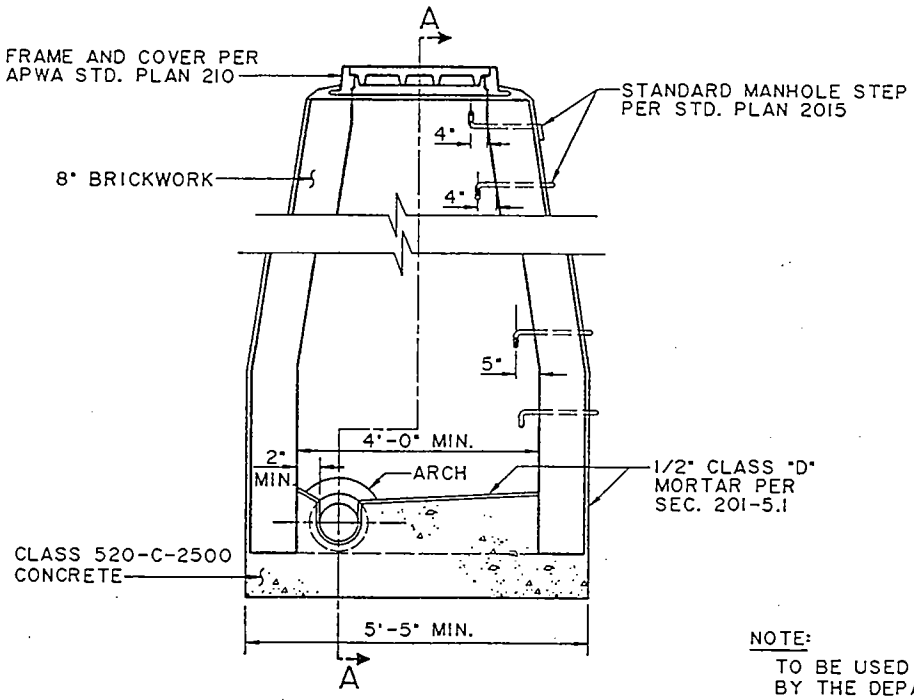
STANDARD PLAN
2005-0
SHEET 2 OF 2



PLAN



SECTION A-A



SECTION B-B

NOTE:
TO BE USED ONLY UPON APPROVAL BY THE DEPARTMENT WHEN SEWER IS OFF CENTER.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SPECIAL SQUARE BASE MANHOLE

STANDARD PLAN
2006-0
SHEET 1 OF 2

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD.S-9

NOTES

1. ARCHES: LAY SPALLED BRICK ON EDGE TO FORM A TRUE RADIAL ARCH WITH FULL MORTAR JOINT AROUND ALL PIPE OPENINGS. TURN ARCH OF TWO SUCH COURSES OVER PIPES 15" OR MORE IN DIAMETER.

2. STEPS: SET LOWER STEP ON TOP OF THIRD SOLDIER COURSE AND NOTCH BRICK ABOVE. PLACE UPPER STEP IMMEDIATELY BELOW ROWLOCK COURSE WITH TREAD OF STEP PROJECTING UPWARD AND SET 2" OUT FROM WALL. OUTSIDE PROJECTION OF TOP STEP TO BE BENT DOWN.

3. CHANNEL BASE: THE DEPTH OF CHANNEL IN CHANNEL BASE SHALL EQUAL THE PIPE DIAMETER FOR ALL SIZES OF PIPE.

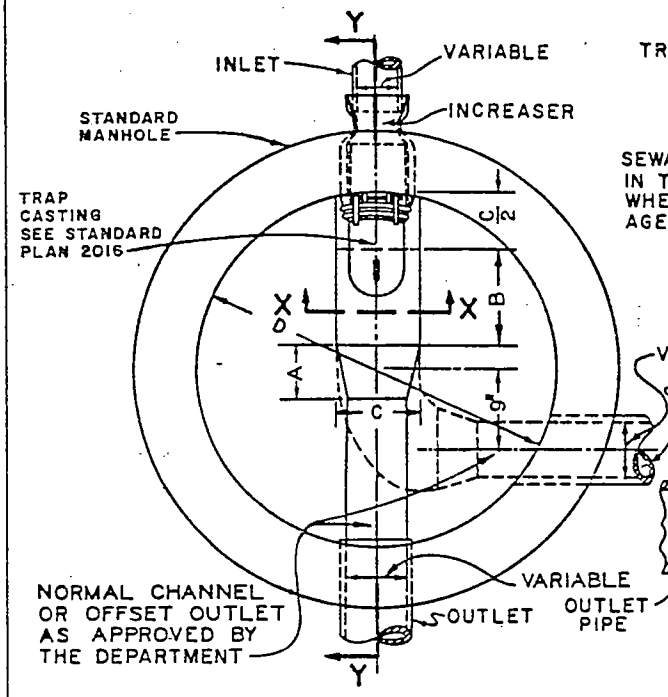
4. BRICKWORK: BRICKWORK TO BE CONSTRUCTED AS SHOWN ON APWA STANDARD PLAN 203.

5. CONCRETE BASE: CONCRETE BASE TO BE CONSTRUCTED AS PER APWA STANDARD PLAN 203, NOTES 1 & 10.

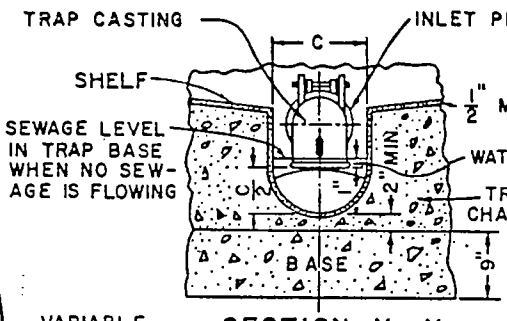
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SPECIAL SQUARE BASE MANHOLE

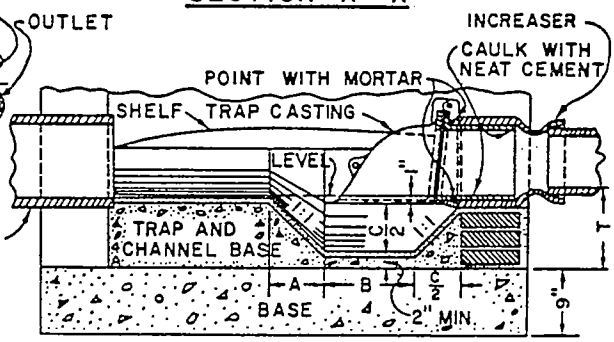
STANDARD PLAN
2006-0
SHEET 2 OF 2



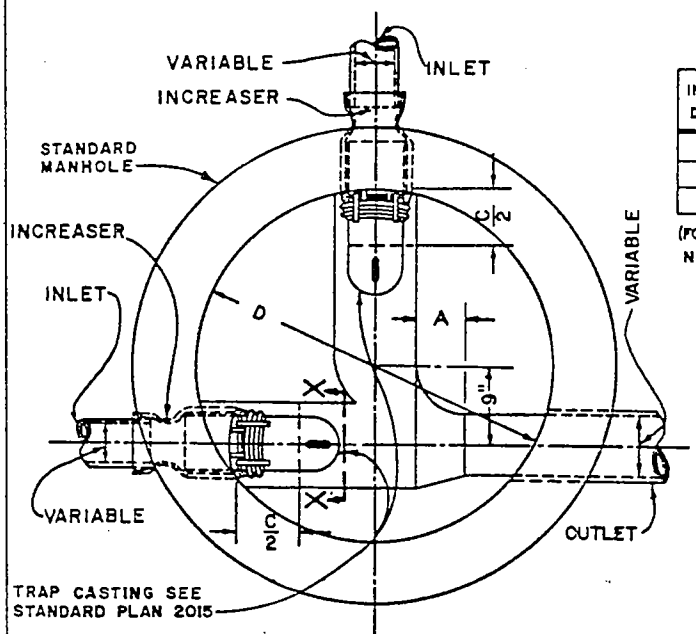
PLAN
SINGLE TRAP BASE



SECTION X-X



SECTION Y-Y



PLAN
DOUBLE TRAP BASE

TRAP BASES

INLET DIAM.	INLET INCREASER	TRAP SIZE	TRAP PER	DIAM. OF MANHOLE BASE (D) OUTLET DIAMETER 8"	10"	12"
8"	8" X 10"	10"	2016	4'	4'	4'
10"	10" X 12"	12"	2016		4'	4'
12"	12" X 15"	15"	SEE STANDARD PLAN 2008			

(FOR 15" INLETS AND LARGER SEE STANDARD PLAN 2009: NO INCREASER REQUIRED)

BASE DIMENSIONS					
TRAP DIAM.	A	B	C	$A+B+\frac{C}{2}$	T MIN.
10"	7½"	14½"	13"	28½"	9"
12"	8½"	16½"	15"	32½"	10"
15"	SEE STANDARD PLAN 2008				

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

TRAP MANHOLE BASE

STANDARD PLAN
2007-0
SHEET 1 OF 2

APPROVED Thomas A Gilmoreau 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD. S-10

NOTES

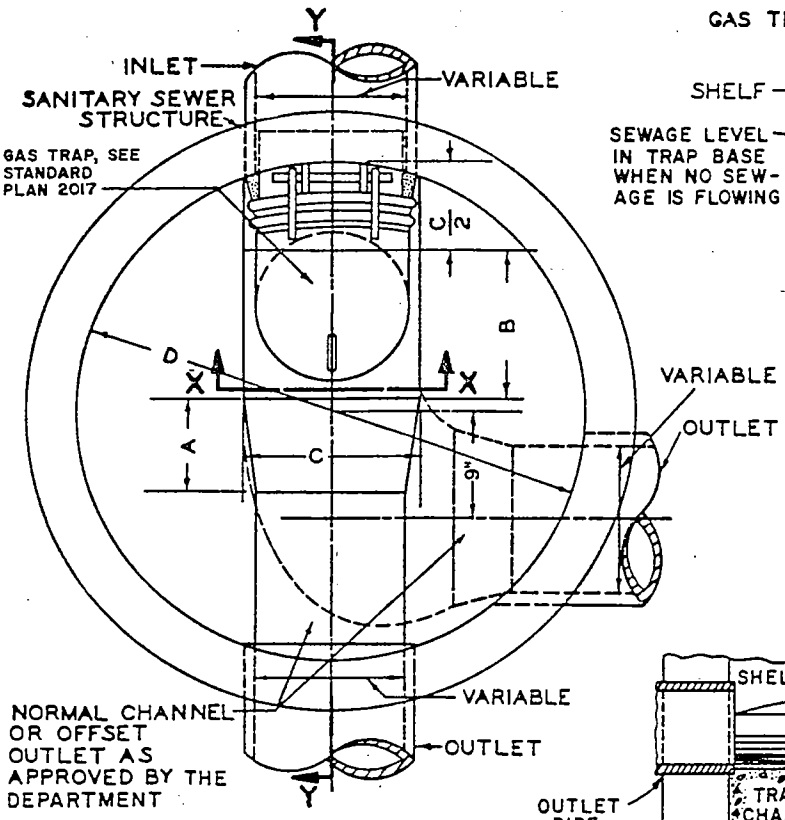
1. WHERE A TRAP IS NECESSARY IN AN EXISTING STRUCTURE, BREAK OUT CONCRETE AND CONSTRUCT NEW BASE.
2. FOR OTHER MANHOLE DETAILS, SEE APWA STANDARD PLAN 203, OR STANDARD PLANS 2001, 2003.
3. ALL CEMENT MORTAR SHOWN SHALL BE CLASS "D" PER SECTION 201-5.1.
4. WATER SEAL SHALL BE 1" MINIMUM.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

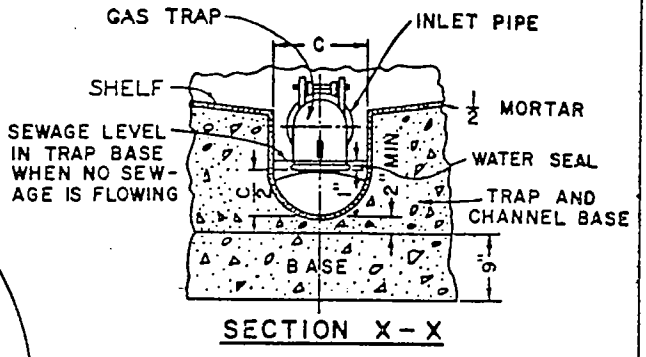
TRAP MANHOLE BASE

STANDARD PLAN
2007-0
SHEET 2 OF 2

46-66-ii



PLAN
SINGLE TRAP BASE



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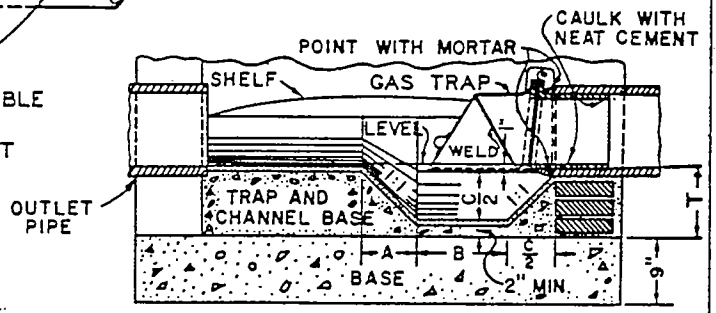
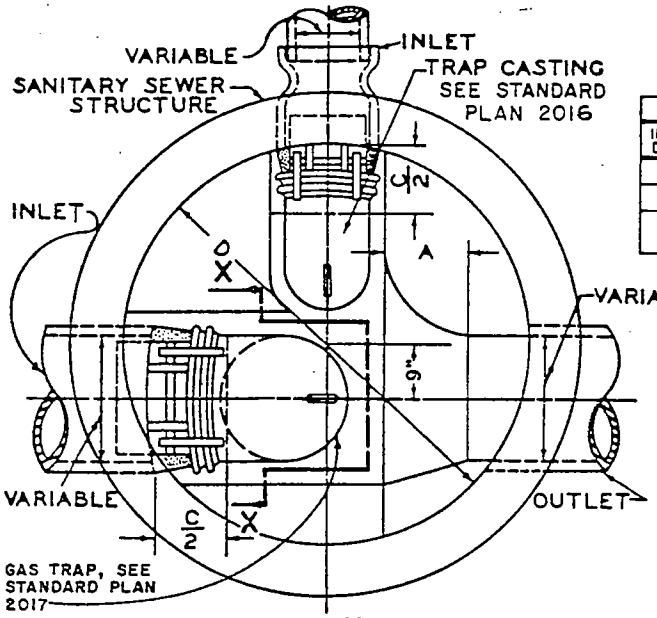


SECTION Y-Y



PLAN
DOUBLE TRAP BASE

BASE & COVER DIMENSIONS					
INLET DIAM.	A	B	C	T MIN.	FRAME & COVER
15"	10"	17 1/2"	18"	11"	PER APWA 210
18"	11 1/2"	19 1/2"	21"	13"	29" CLEAR OPENING MINIMUM OF A TYPE APPROVED BY THE DEPARTMENT
21"	13"	21 1/2"	24"	14"	

TRAP BASES

INLET DIAM & TRAP SIZE	DIAM. OF MANHOLE BASE (D) OUTLET DIAMETER			
	15"	18"	21"	24"
15"	4'	5'	5'	5'
18"	—	5'	5'	5'
21"	—	—	6'	6'

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

LARGE GAS TRAP MANHOLE BASE

STANDARD PLAN
2008-0
SHEET 1 OF 2

APPROVED Thomas A Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD. S-11

46-67-1

NOTES

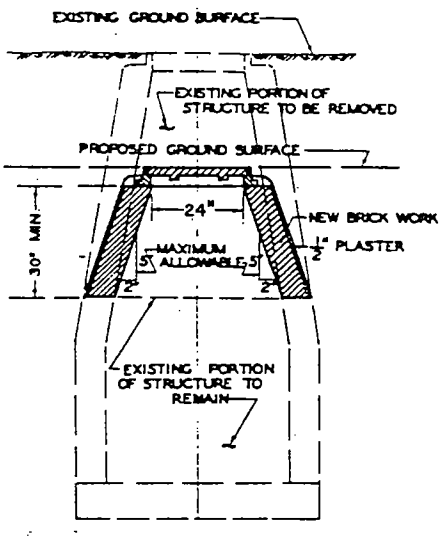
1. FOR OTHER MANHOLE DETAILS, SEE APWA STANDARD PLAN 203; OR STANDARD PLAN 2001, 2003.
2. FOR DETAILS OF GAS TRAP FABRICATION FOR 15", 18" AND 21" GAS TRAPS, SEE STANDARD PLAN 2017.
3. WATER SEAL SHALL BE 1" MINIMUM.
4. FOR TRAP INLETS LARGER THAN 21" SHOW BASE DETAIL ON PROFILE AS APPROVED BY THE DEPARTMENT.
5. ALL CEMENT MORTAR SHOWN SHALL BE CLASS "D" PER SECTION 201-5.1.
6. DOUBLE TRAP BASES ARE NOT ALLOWED IF ANY INLET IS 18" IN DIAMETER OR GREATER.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

LARGE GAS TRAP MANHOLE BASE

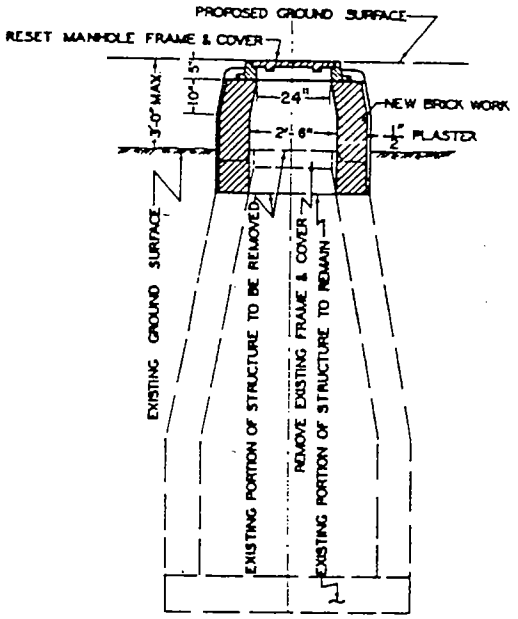
STANDARD PLAN
2008-0
SHEET 2 OF 2

46-67-ii



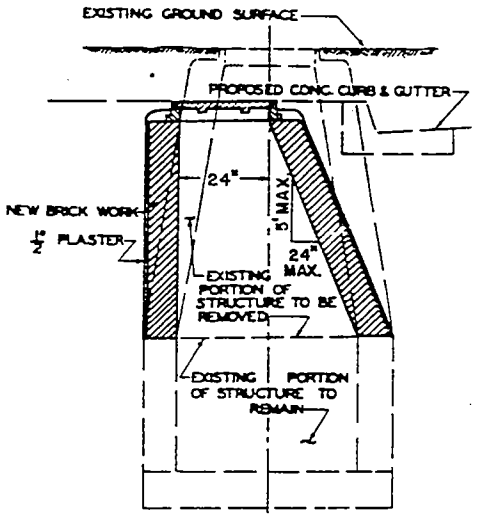
CASE I

SEE NOTES 1, 4 & 5 (SH. 2)



CASE II

SEE NOTES 1, 3, 5 & 6 (SH. 2)



CASE III

SEE NOTES 1, 2 & 5 (SH. 2)

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

RECONSTRUCTION OF BRICK MANHOLE TOPS

STANDARD PLAN 2009-0

SHEET 1 OF 2

APPROVED Thomas A. Tidemanson
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

SUPERSEDES COUNTY ENGINEER STD. S-12

46-68-i

NOTES

1. PRIOR TO THE REMOVAL OF THE FRAME OF ANY SEWER MANHOLE, THE CHANNEL OF THE MANHOLE SHALL BE COMPLETELY COVERED WITH PLANKING OR OTHER SUITABLE MATERIAL SO AS TO PREVENT DEBRIS FROM ENTERING THE CHANNEL. AFTER THE MANHOLE RECONSTRUCTION HAS BEEN COMPLETED ALL DEBRIS SHALL BE REMOVED FROM WITHIN THE MANHOLE AND THE COVER OVER THE CHANNEL SHALL BE REMOVED.

2. WHEN IT BECOMES NECESSARY TO CONSTRUCT A STRAIGHT SIDED MANHOLE THE BRICK WORK SHALL BE BROKEN DOWN TO A POINT EQUAL TO OR BELOW THE HIGHEST POINT OF THE VERTICAL WALL. THE SLOPE OF THE CORBELED SIDE SHALL NOT EXCEED 12" IN 30". THE MANHOLE STEPS SHALL BE PLACED ON THE VERTICAL SIDE.

3. WHEN THE TOP OF A SEWER MANHOLE IS TO BE RAISED 3' OR LESS THE BRICK WORK SHALL BE BROKEN DOWN TO A POINT WHERE THE INSIDE DIAMETER IS A MINIMUM OF 30". THE MANHOLE WALL SHALL THEN BE CONSTRUCTED VERTICALLY TO A POINT 15" BELOW THE TOP OF MANHOLE. SEE CASE II.

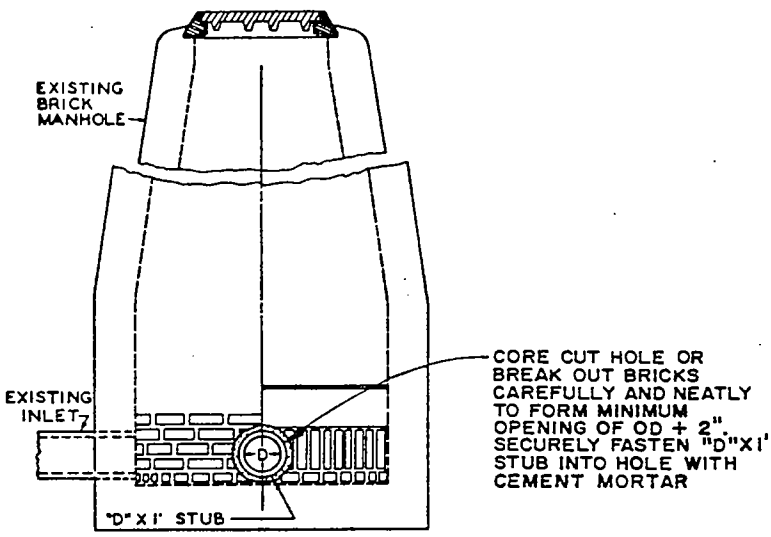
4. WHEN RECONSTRUCTION CAUSES THE DEPTH OF A MANHOLE TO BECOME LESS THAN 5' FROM THE INVERT OF THE CHANNEL TO THE TOP OF THE MANHOLE THE BRICK WORK SHALL BE ENTIRELY BROKEN DOWN AND A SHALLOW RECTANGULAR MANHOLE CONSTRUCTED AS PER STANDARD PLANS 2004 & 2014.

5. MANHOLE STEPS, PER STANDARD PLAN 2015, SHALL BE PLACED SO AS NOT TO BE MORE THAN 17" APART WITH THE TOP STEP BEING PLACED IMMEDIATELY UNDER THE TOP ROWLOCK COURSE OF BRICK.

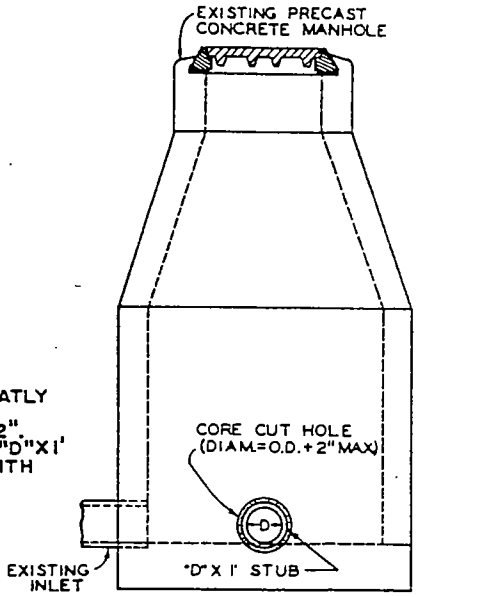
6. WHERE THE TOP OF A MANHOLE IS TO BE RAISED IN EXCESS OF 3', IT SHALL BE RECONSTRUCTED IN ACCORDANCE WITH APWA STANDARD PLAN 203.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

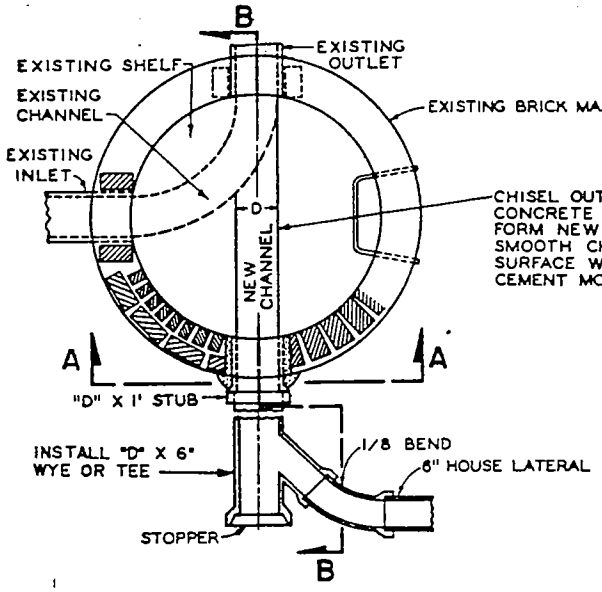
RECONSTRUCTION OF BRICK MANHOLE TOPS	STANDARD PLAN 2009-0 SHEET 2 OF 2



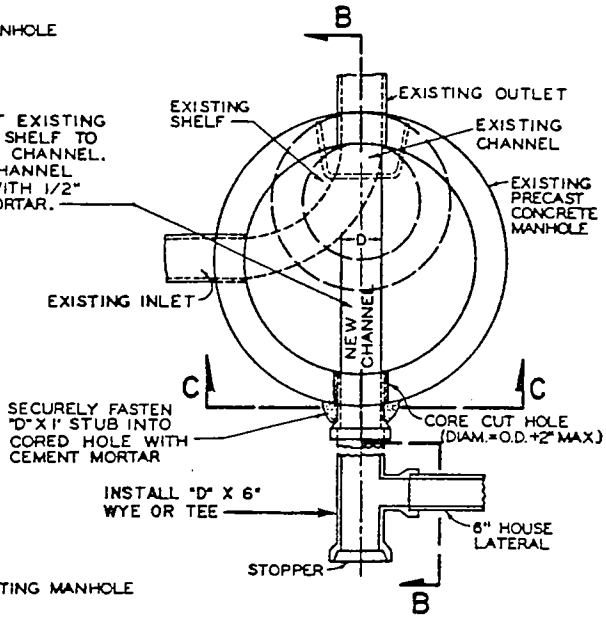
SECTIONAL ELEVATION A-A



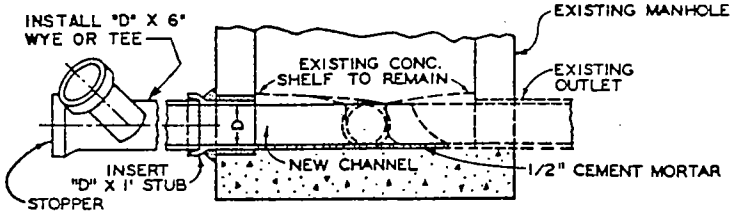
SECTIONAL ELEVATION C-C



SECTIONAL PLAN OF BASE



SECTIONAL PLAN OF BASE



SECTIONAL ELEVATION B-B
CHANNEL BASE

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

BREAKING INTO EXISTING BRICK OR PRECAST CONCRETE MANHOLE

STANDARD PLAN
2010-0
SHEET 1 OF 2

APPROVED Thomas A. Gilmanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD. S-13

46-69-i

NOTES

1. INVERT ELEVATION OF "D" X 1' STUB AT THE INSIDE FACE OF MANHOLE TO BE 0.10' HIGHER THAN EXISTING OUTLET INVERT ELEVATION.
2. THE CORE CUT HOLE SHALL BE MADE WITH EQUIPMENT SPECIALLY DESIGNED TO CUT A SMOOTH HOLE WITHOUT SPALLING OR DAMAGE TO THE REINFORCING STEEL OR STRUCTURE.
3. "D" TO BE 8" MINIMUM.
4. THE DEPARTMENT SHOULD BE NOTIFIED BY TELEPHONE (818)458-3126 FOR INSPECTION AT LEAST 24 HOURS BEFORE INSPECTION IS TO BE MADE.
5. ALL WORK SHOULD BE UNCOVERED AND CONVENIENT FOR THE INSPECTION.
6. ALL CEMENT MORTAR SHALL BE CLASS "D" PER SECTION 201-5.1.
7. CONSULT THE DEPARTMENT PRIOR TO BREAKING INTO SHALLOW MANHOLES.

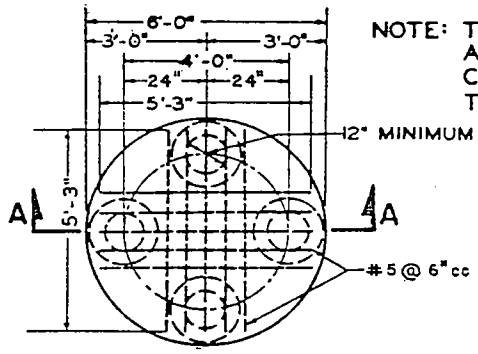
HOUSE LATERAL NOTES

1. WYE TO BE LAID WITH 1/8" RISE PER FOOT AND 6" SPUR AT 45° FROM HORIZONTAL.
2. "D" X 4" WYE OR TEE AND 4" HOUSE LATERAL MAY BE SUBSTITUTED FOR "D" X 6" WYE OR TEE AND 6" HOUSE LATERAL UPON APPROVAL OF THE DEPARTMENT.
3. USE TYPE "D", "F" OR "G" JOINTS PER SECTION 208-2 OF STANDARD SPECIFICATIONS.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

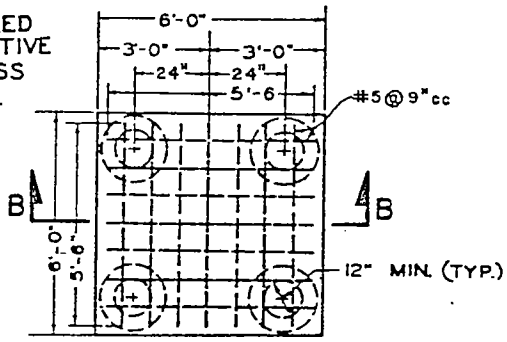
BREAKING INTO EXISTING BRICK OR PRECAST CONCRETE MANHOLE

STANDARD PLAN
2010-0
SHEET 2 OF 2

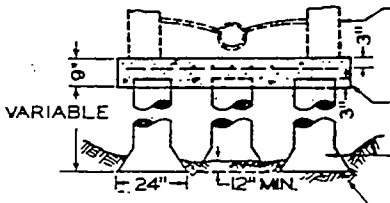


NOTE: TO BE USED IN FILLED AREA WHERE RELATIVE COMPACTION IS LESS THAN 90 PERCENT.

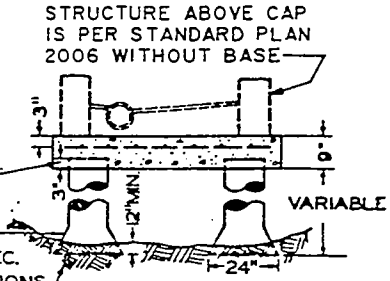
ROUND BASE



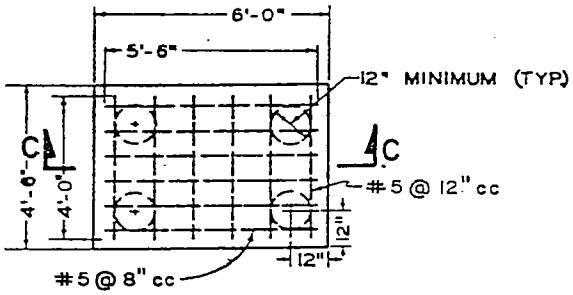
SQUARE BASE



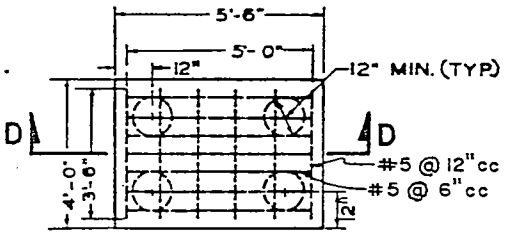
SECTION A-A



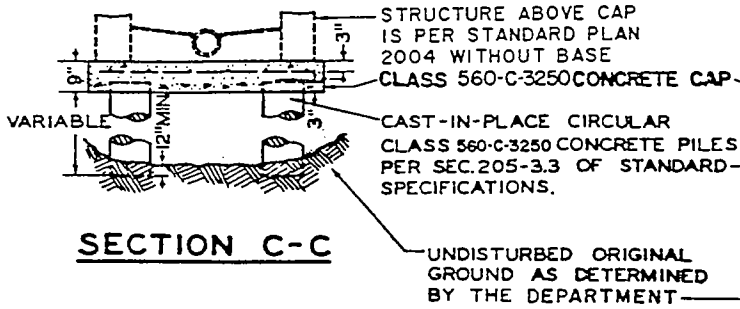
SECTION B-B



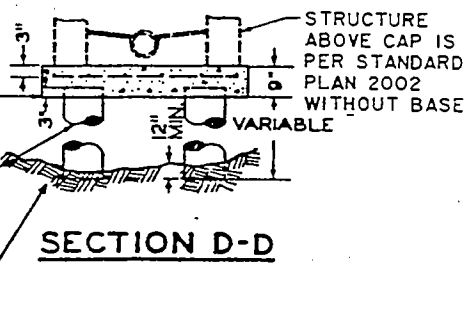
BRICK SHALLOW BASE



PRECAST CONCRETE SHALLOW BASE



SECTION C-C



SECTION D-D

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SPECIAL MANHOLE BASES

STANDARD PLAN 2011-0

APPROVED Thomas A. Tidemanson DIRECTOR OF PUBLIC WORKS 5/31/1992 DATE

SHEET 1 OF 2

SUPERSEDES COUNTY ENGINEER STD. S-14

NOTES

SEPARATE DESIGN WILL BE REQUIRED IN EACH OF THE FOLLOWING CASES:

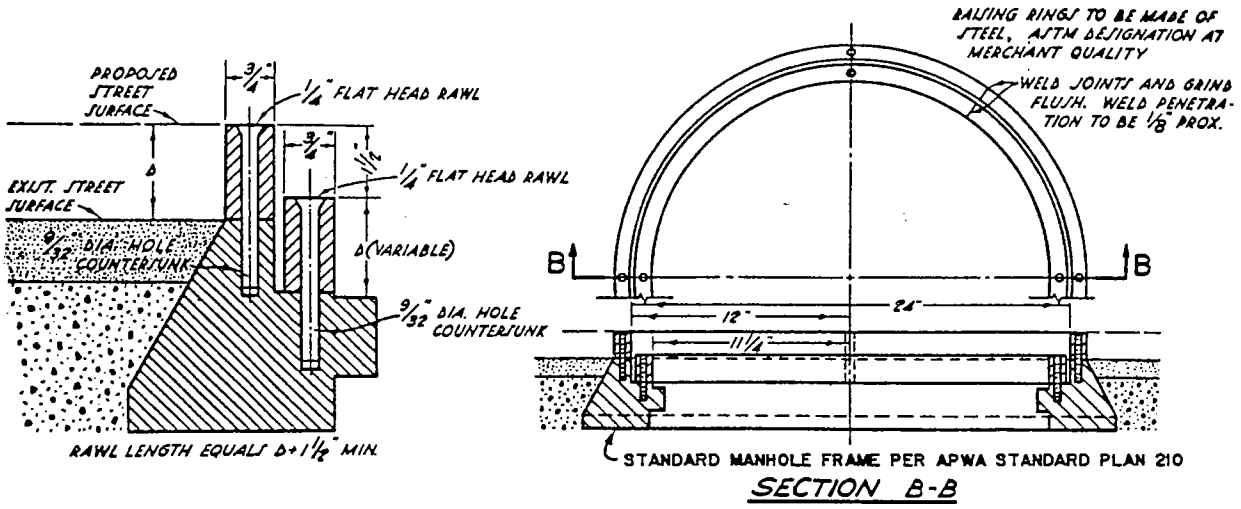
1. MANHOLE BASES LARGER THAN THOSE SHOWN.
2. MANHOLE DEPTH GREATER THAN 10'.
3. PILE LENGTH GREATER THAN 20'.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

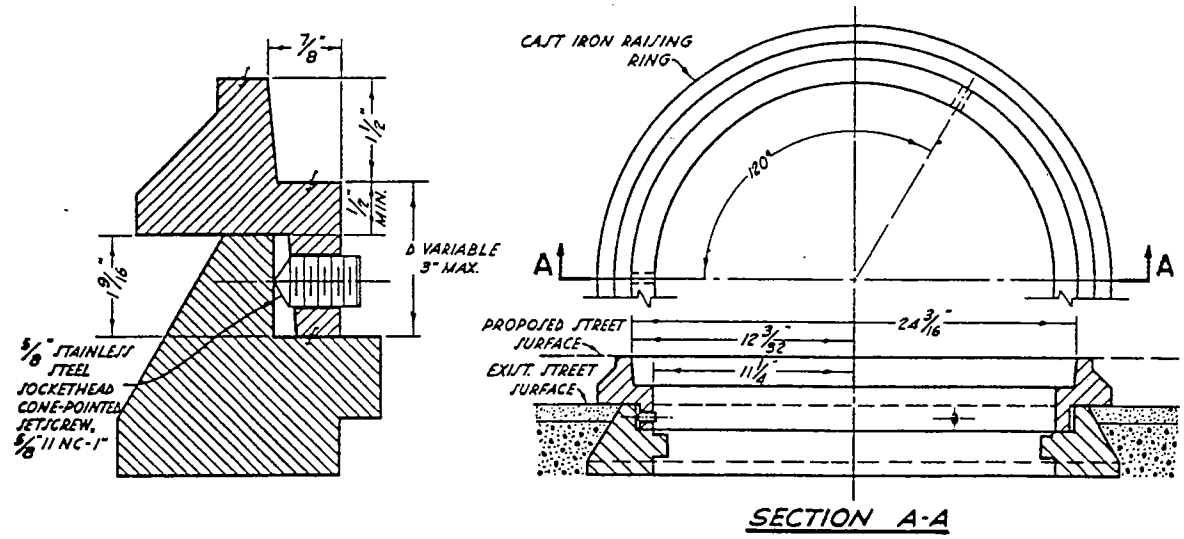
SPECIAL MANHOLE BASES

STANDARD PLAN
2011-0
SHEET 2 OF 2

46-70-ii



STEEL RAISING RINGS



CAST IRON RAISING RINGS

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

MANHOLE RAISING RINGS

STANDARD PLAN 2012-0

SHEET 1 OF 2

APPROVED Thomas A. Tidemanson 5/31/1992

DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-34

NOTES

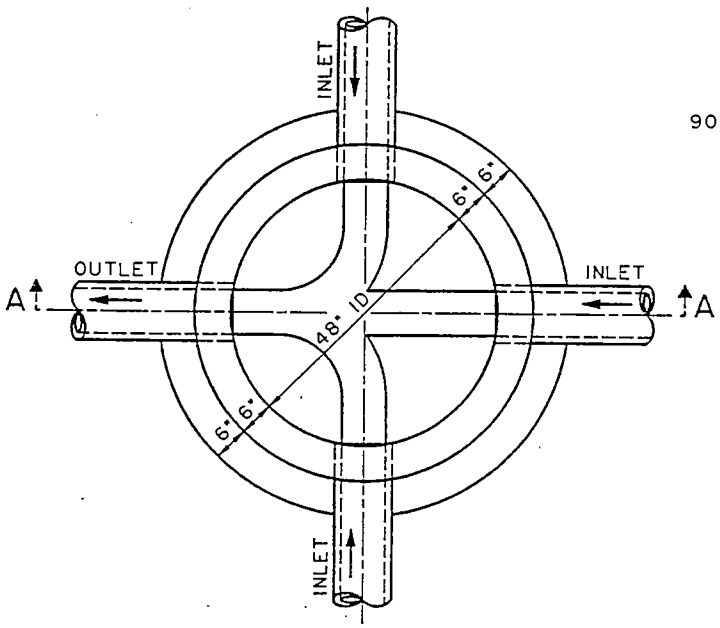
1. MACHINE SEATS, OF CAST IRON RINGS.
2. THE CAST IRON USED SHALL CONFORM TO SECTION 206-3 OF SSPWC.
3. THE METAL RAISING RINGS MAY BE USED IN LIEU OF THE REGULAR METHOD OF ADJUSTMENT UTILIZING MORTAR OR BRICK AND MORTAR UNDER THE FOLLOWING CONDITIONS.
   A. RAISING RINGS MAY ONLY BE USED UPON WRITTEN APPROVAL OF THE DEPARTMENT.
   B. ONLY ONE ADJUSTMENT WITH RAISING RINGS WILL BE ALLOWED ON ANY MANHOLE.
   C. MAXIMUM "D" SHALL BE 3".

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

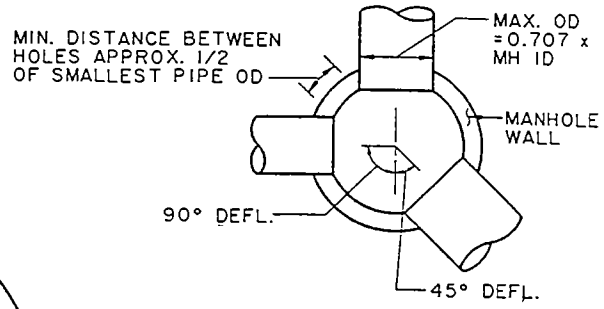
MANHOLE RAISING RINGS

STANDARD PLAN
2012-0
SHEET 2 OF 2

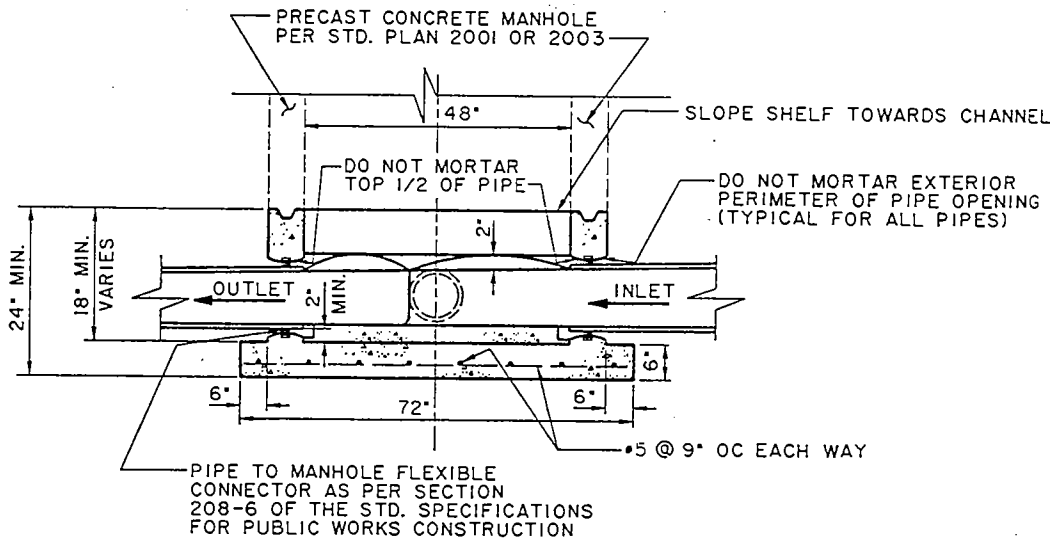
46-71-ii



PLAN VIEW



PIPE SPACINGS



SECTION A-A

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

PRECAST REINFORCED CONCRETE MANHOLE BASE

STANDARD PLAN 2013-0

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SHEET 1 OF 2

46-72-c

NOTES

1. CONCRETE BASE AND STUB WALLS SHALL BE POURED IN ONE. OPERATION.

2. CONCRETE FOR ALL PRECAST UNITS SHALL BE COMPACTLY VIBRATED IN THE FORMS. IT SHALL BE CURED ACCORDING TO APPROVED PRACTICE EITHER BY STEAM, SPRINKLING, MEMBRANE SOLUTION, OR A COMBINATION OF THESE. IT SHALL DEVELOP 3500 PSI OR GREATER STRENGTH IN 28 DAYS.

3. THE DEPTH OF CHANNEL SHALL EQUAL THE PIPE DIAMETER FOR ALL SIZES OF PIPE. FOR SPECIAL CHANNELS IN TRAP OR GAUGING MANHOLES, SEE SPECIAL PLANS.

4. CEMENT MORTAR INSIDE JOINTS SHALL BE NEATLY STRUCK AND POINTED AND SHALL NOT EXCEED 3/8" IN THICKNESS.

5. STUB WALLS AND BASE SHALL CONFORM TO. ASTM C 478 AND SHALL HAVE A MINIMUM OF 2" COVER OVER THE STEEL ON THE INSIDE FACE.

6. INVERT CHANNELS AND SHELF MAY BE POURED AT THE FACTORY OR IN THE FIELD AT THE OPTION OF THE CONTRACTOR.

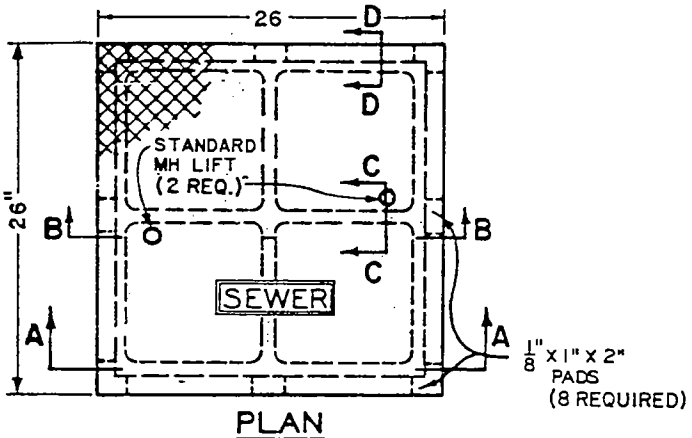
7. BEDDING FOR PRECAST BASE SHALL BE EQUAL TO BEDDING FOR PIPE. IF PIPE IS PLACED ON NATIVE MATERIAL USE 6" MINIMUM CRUSHED ROCK UNDER BASE.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

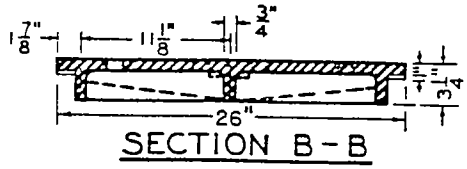
PRECAST REINFORCED CONCRETE MANHOLE BASE

STANDARD PLAN
2013-0
SHEET 2 OF 2

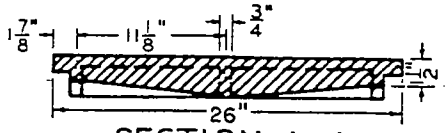
46-72-ii



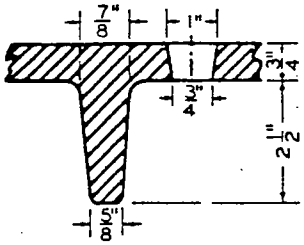
PLAN
MANHOLE COVER



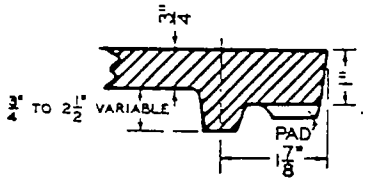
SECTION B-B



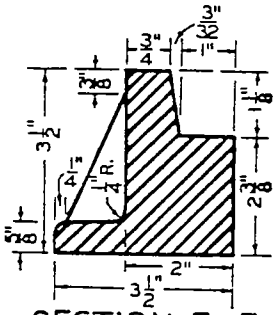
SECTION A-A



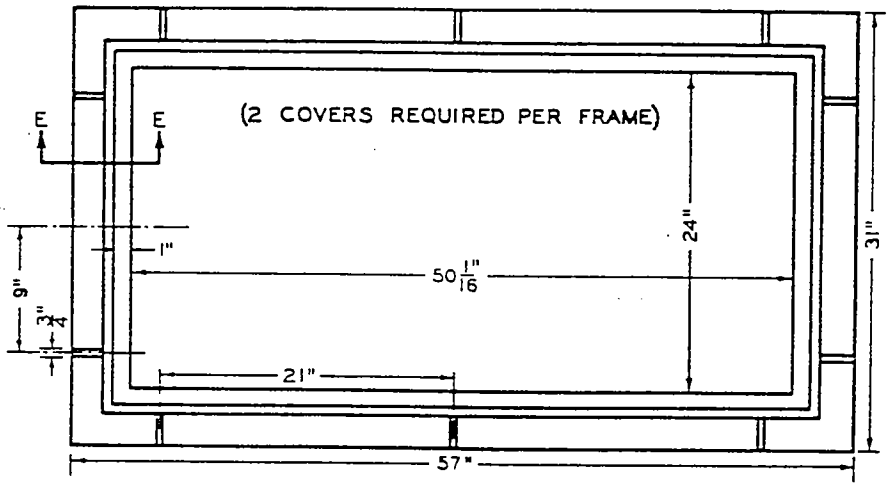
SECTION C-C



SECTION D-D



SECTION E-E



MANHOLE FRAME

NOTES:

1. FOR USE WITH MANHOLES PER STANDARD PLANS 2002 AND 2004.
2. USE CAST IRON PER SEC. 206-3.3 OF THE STANDARD SPECIFICATIONS.
   2 COVERS APPROX. WT. 195 LBS. EACH. 390 LBS.
   FRAME 270 LBS.
   TOTAL 660 LBS.

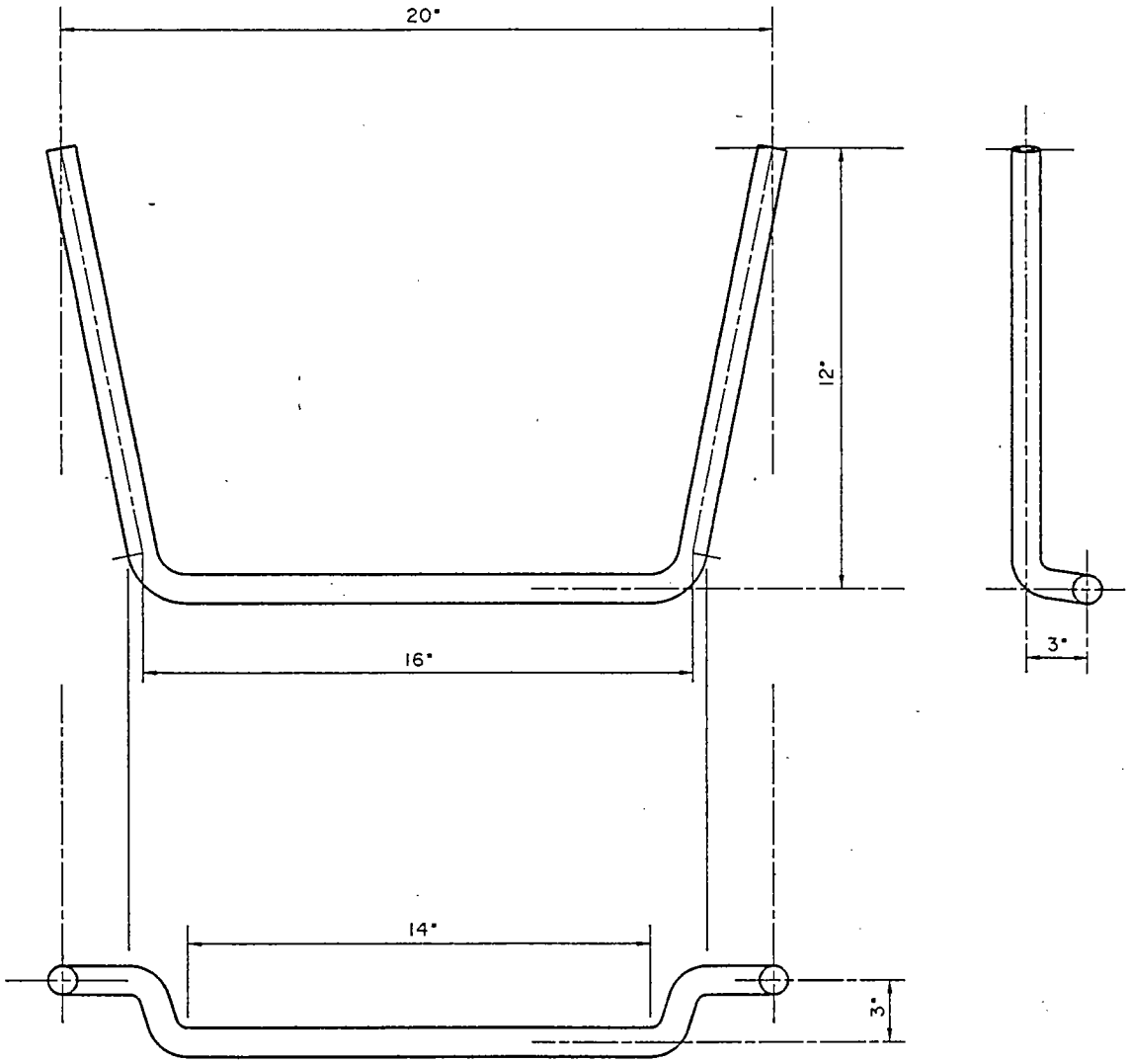
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

RECTANGULAR MANHOLE FRAME & COVER

STANDARD PLAN
2014-0
SHEET 1 OF 1

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD. S-16



LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

STANDARD MANHOLE STEP

STANDARD PLAN
2015-0
SHEET 1 OF 2

APPROVED Thomas A. Tidemanson
DIRECTOR OF PUBLIC WORKS
5/31/1992
DATE

SUPERSEDES COUNTY ENGINEER STD. S-17

NOTES

MATERIAL FOR THE STANDARD MANHOLE STEP SHALL BE ONE OF THE FOLLOWING:

1. 3/4"Ø STEEL CONFORMING TO ASTM A 15 OR A 107 GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A 123.

2. 3/4"Ø ALUMINUM ALLOY 6061-T6 CONFORMING WITH ASTM B 211 OR B 221. THE PORTION OF THE ALUMINUM STEPS TO BE EMBEDDED IN CONCRETE OR MORTAR SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER.

3. 3/4"Ø OR 3/4" SQUARE OR EQUIVALENT CROSS SECTIONAL AREA WROUGHT IRON CONFORMING TO ASTM A 207.

THE FOLLOWING STEP MAY BE SUBSTITUTED FOR THE STEPS SHOWN ABOVE:

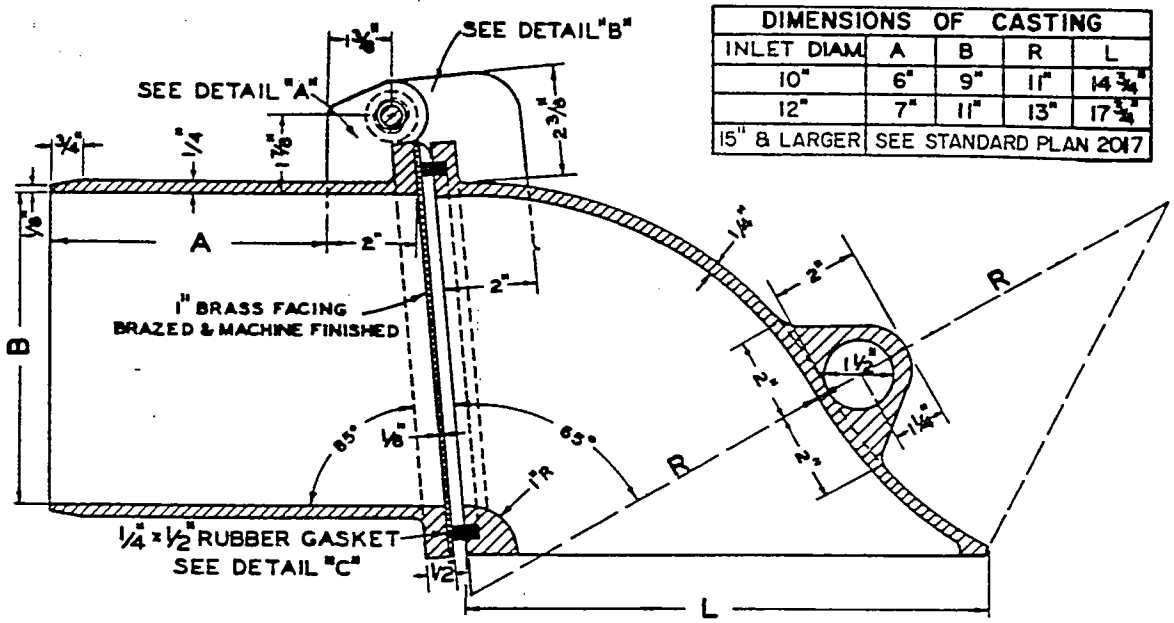
COPOLYMER POLYPROPYLENE PLASTIC COATED STEP CONFORMING TO ASTM C 478, MODEL PS-2-PFS AND MODEL PS-2-BG (BETWEEN GRADE RINGS) MANUFACTURED BY M.A. INDUSTRIES, INC.: MODEL X038PS AND MODEL X040PS (BETWEEN GRADE RINGS) MANUFACTURED BY SOUTHWEST CONCRETE PRODUCTS OR A DEPARTMENT APPROVED EQUAL. STEPS SHALL BE CAST OR PLACED INTO THE MANHOLE SHAFTING BY THE MANUFACTURER PRIOR TO DELIVERY TO THE JOB SITE. STEPS SHALL BEAR THE MODEL NUMBER AS WELL AS ASTM C 478. STEPS OF DIFFERENT MANUFACTURE SHALL NOT BE INTERMIXED ON A SPECIFIC PROJECT UNLESS SHOWN ON THE PROJECT DRAWINGS.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

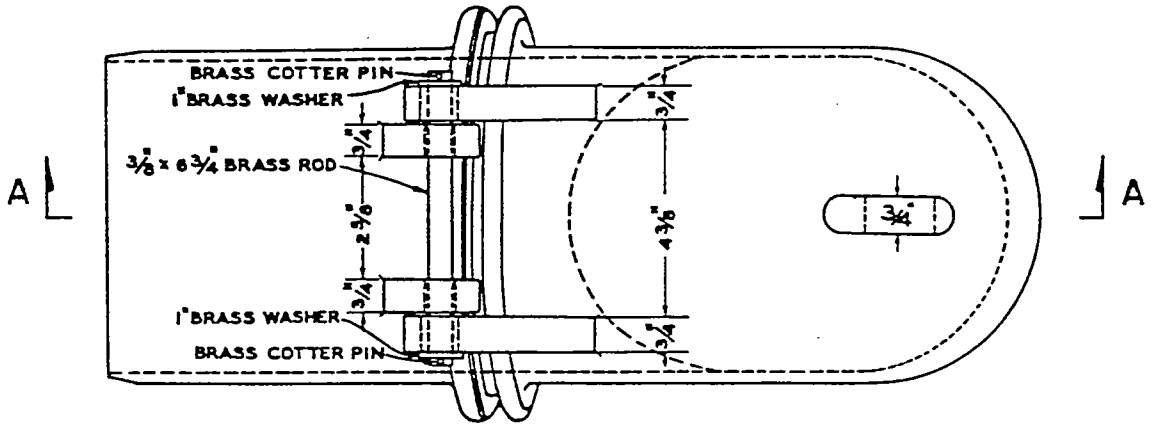
STANDARD MANHOLE STEP	STANDARD PLAN 2015-0 SHEET 2 OF 2

46-74-ii

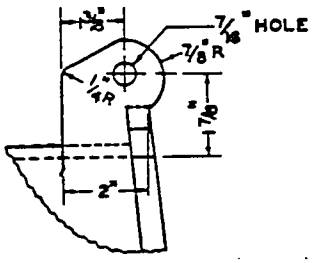
DIMENSIONS OF CASTING				
INLET DIAM	A	B	R	L
10"	6"	9"	11"	14 3/4"
12"	7"	11"	13"	17 3/4"
15" & LARGER	SEE STANDARD PLAN 2017			



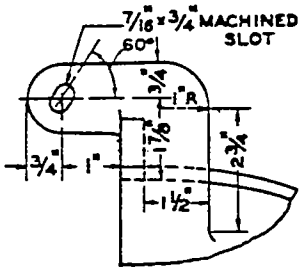
SECTION A-A



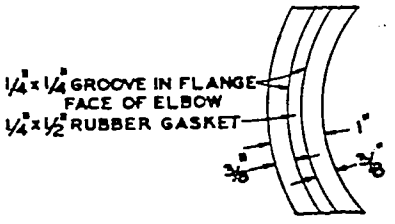
PLAN



DETAIL A



DETAIL B



DETAIL C

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

TRAP MANHOLE CASTING

STANDARD PLAN
2016-0
SHEET 1 OF 2

APPROVED Thomas A Tidemanson
DIRECTOR OF PUBLIC WORKS
5/31/1992
DATE

SUPERSEDES COUNTY ENGINEER STD. S-18

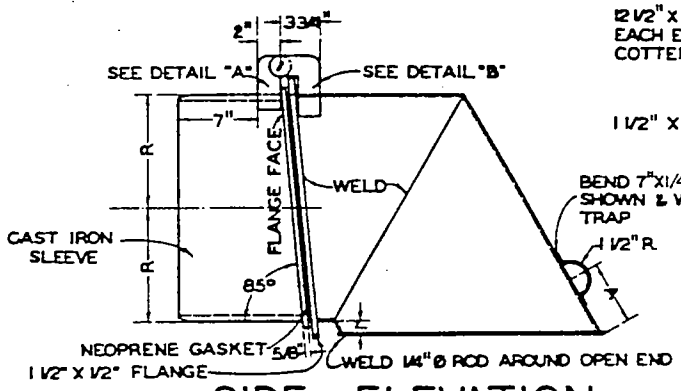
NOTES

1. CAST IRON SHALL BE FURNISHED PER SECTION 206-3.1 AND ASTM SPECIFICATIONS A 48, CLASS 30.
2. FLANGES OF CASTINGS TO BE MACHINE FACED.
3. CASTINGS SHALL BE DIPPED TWICE IN QUALITY HOT ASPHALTUM PAINT.
4. RUBBER GASKET SHALL BE FURNISHED PER SECTION 208-2.2.

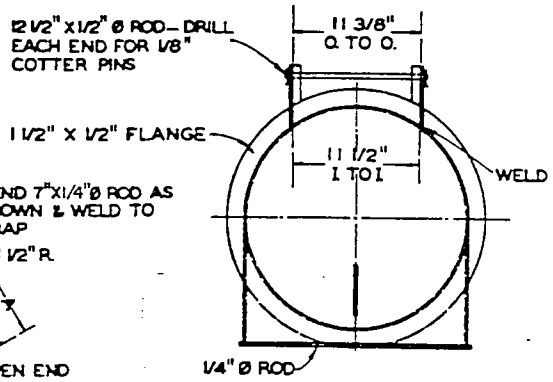
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

TRAP MANHOLE CASTING	STANDARD PLAN 2016-0 SHEET 2 OF 2

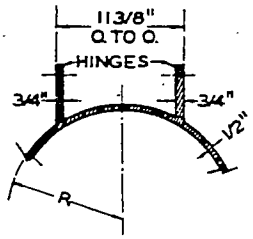
46-75-ii



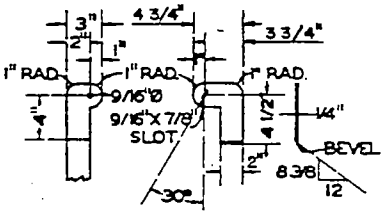
SIDE ELEVATION



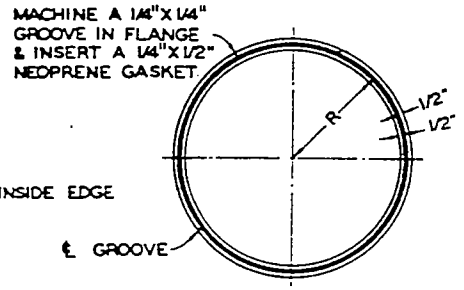
END ELEVATION



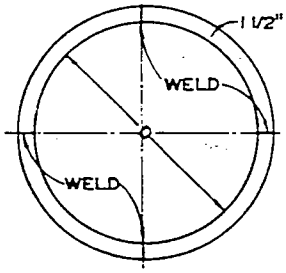
DETAIL "A"



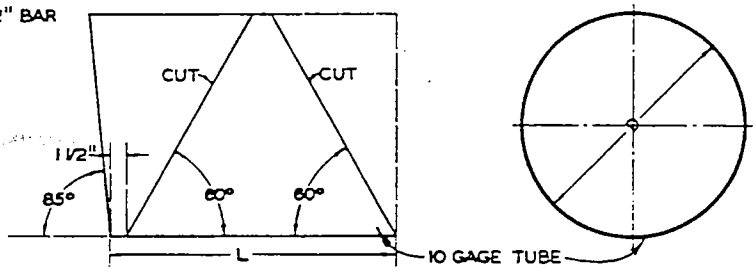
DETAIL "B"



FLANGE FACE
(STUB CASTING)



FLANGE



CONSTRUCTION DETAIL

DIMENSIONS OF TRAP				
INLET DIAM.	A	D	R	L
15"	4"	14"	7 1/4"	19 1/16"
18"	5"	17"	8 3/4"	22 9/16"
21"	6"	20"	10 1/4"	28"

NOTES:
1. STAINLESS STEEL SHALL BE A.I.S.I. TYPE 316 OR A.S.T.M. A240-49 TYPE 316.
2. ALL MATERIAL TO BE STAINLESS STEEL EXCEPT AS NOTED.

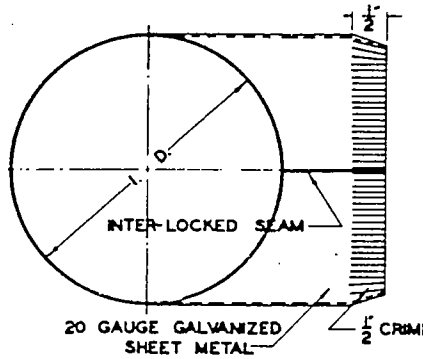
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

LARGE GAS TRAP

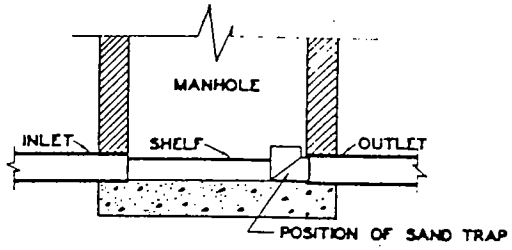
STANDARD PLAN
2017-0
SHEET 1 OF 1

APPROVED Thomas A. Tidemanson
DIRECTOR OF PUBLIC WORKS
5/31/1992
DATE

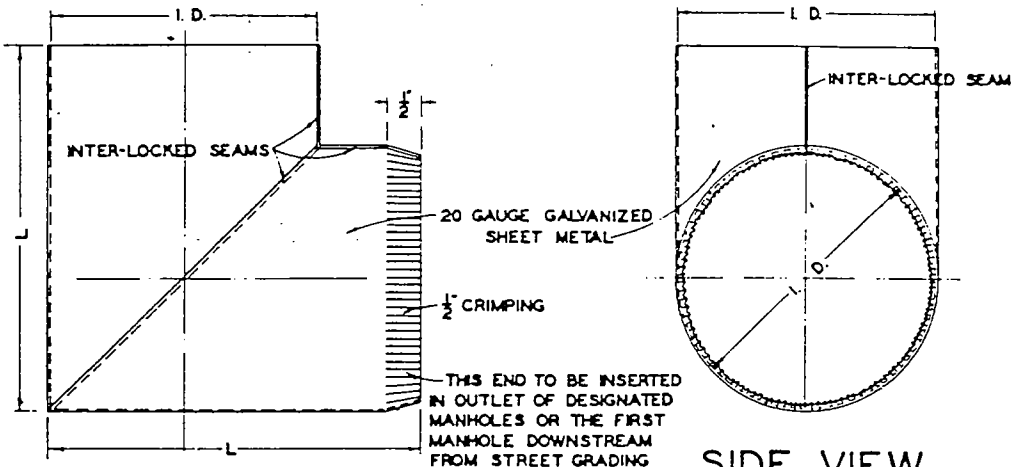
SUPERSEDES COUNTY ENGINEER STD. S-19



TOP VIEW



SECTIONAL VIEW
SHOWING PLACEMENT OF SAND TRAP



FRONT VIEW

SIDE VIEW

NOTES:

1. FOR USE IN NEW SUBDIVISIONS AND WHERE MANHOLE TOPS ARE LOWERED DUE TO STREET GRADE CHANGES OR PAVING OPERATIONS.
2. SAND TRAP AS MANUFACTURED BY FLEXIBLE INC. OR APPROVED EQUAL MAY BE USED IN LIEU OF ABOVE.
3. GATES IN FLEXIBLE SAND TRAP SHALL BE SOLDERED OR WELDED IN CLOSED POSITION.

DIMENSIONS OF TRAP

I. D.	L.	FLEXIBLE EQUIVALENT (SEE NOTES)
8"	10½"	ST-2
10"	12½"	ST-3
12"	16"	ST-4
15"	18"	ST-6
18"	19"	ST-8

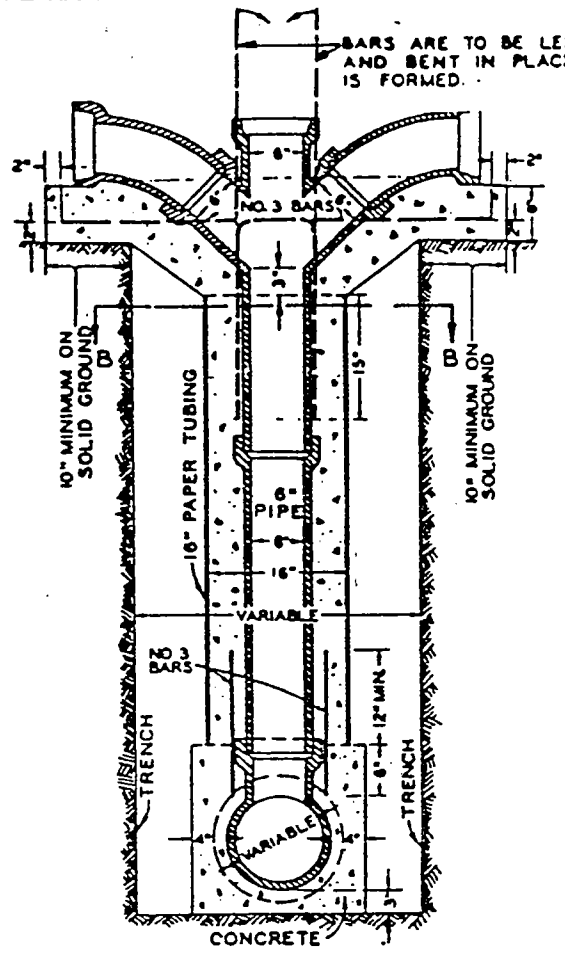
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

TEMPORARY SAND TRAP

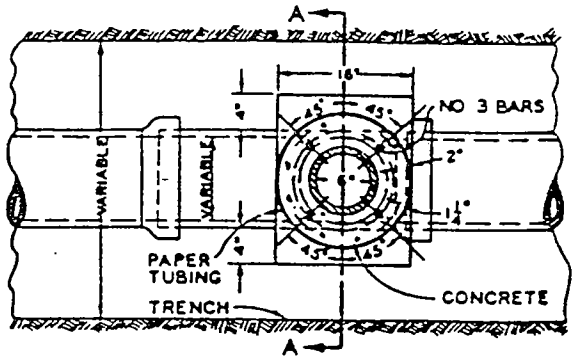
STANDARD PLAN
2018-0
SHEET 1 OF 1

APPROVED Thomas A. Tidemanson
DIRECTOR OF PUBLIC WORKS
5/31/1992
DATE

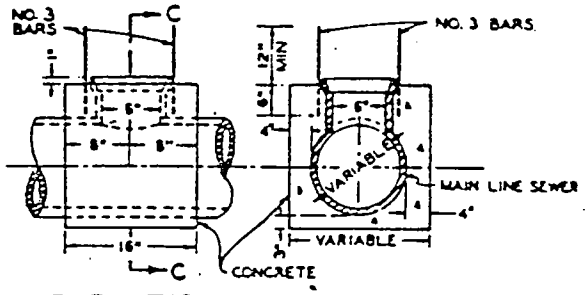
SUPERSEDES COUNTY ENGINEER STD. S-20



SECTION A-A



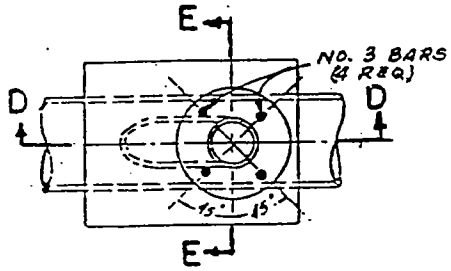
SECTION B-B



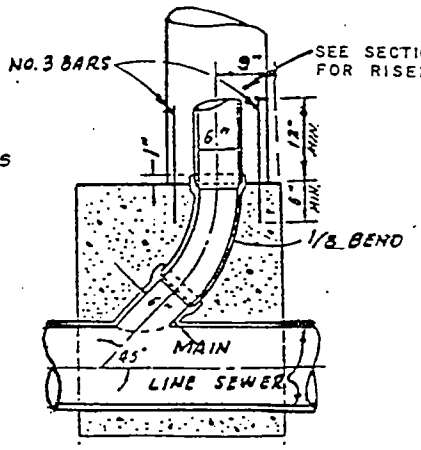
ELEVATION SECTION C-C

CHIMNEY BASE

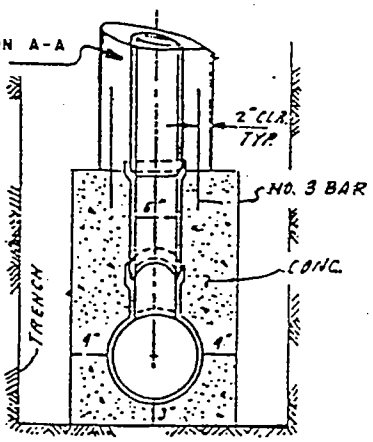
CASE I



SEC. B-B



SEC. D-D



SEC. E-E

CHIMNEY BASE

CASE II

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CHIMNEY PIPE AND BASE

STANDARD PLAN 2020-0

SHEET 1 OF 2

APPROVED Thomas A. Tidemanson 5/31/1992

DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-27

46-78-1

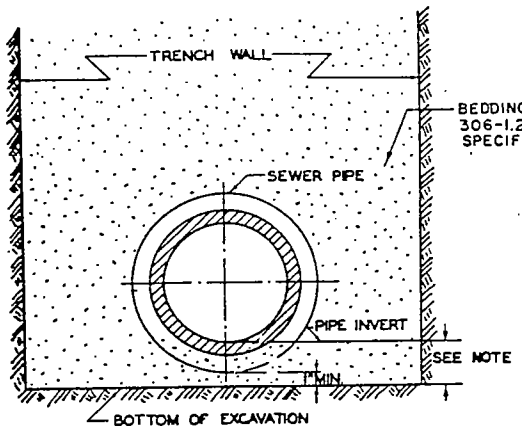
NOTES

1. THE UPPER END OF THE CHIMNEY PIPE SHALL BE AT LEAST 8' BELOW THE GRADE OF THE LOWER CURB.
2. THE CHIMNEY PIPE SHALL BE VITRIFIED CLAY PIPE WITH MECHANICAL COMPRESSION JOINTS.
3. NO CONNECTION SHALL BE MADE DIRECTLY TO TOP OF CHIMNEY PIPE.
4. WHERE ONE HOUSE LATERAL IS TO BE JOINED TO THE CHIMNEY PIPE, USE A SINGLE WYE AND FACE WYE TOWARDS PROPERTY TO BE SERVED.
5. WHERE TWO OR MORE HOUSE LATERALS ARE TO BE JOINED TO THE CHIMNEY PIPE, INSTALL WYE BRANCHES AS FOLLOWS:
   A. FOR TWO HOUSE LATERALS, ONE SERVING EACH SIDE OF STREET, USE A DOUBLE WYE BRANCH.
   B. FOR TWO HOUSE LATERALS SERVING THE SAME SIDE OF THE STREET, USE TWO SINGLE WYE'S STACKED WITH BRANCHES FACING THE PROPERTIES SERVED.
   C. FOR THREE OR FOUR HOUSE LATERALS, USE TWO DOUBLE WYE BRANCHES OR ONE DOUBLE AND ONE SINGLE WYE BRANCH STACKED.
6. EACH DOUBLE OR SINGLE WYE BRANCH AND EIGHTH BEND SHALL BE SUPPORTED BY A CONCRETE BEAM AS SHOWN.
7. FOR CHIMNEY BASE, 6" TEE BRANCH OR SADDLE SHALL BE INSTALLED VERTICALLY ON TOP OF THE MAIN LINE SEWER AS SHOWN OR IN ACCORDANCE WITH GENERAL NOTES PER STANDARD PLAN 2025. THE CHIMNEY BASE MUST BE POURED AND SET WITH DOWELS AS SHOWN 24 HOURS BEFORE THE CHIMNEY CONCRETE IS POURED.
8. ALL CONCRETE SHOWN SHALL BE CLASS 520-C-2500.
9. CASE I SHALL BE FOR VITRIFIED CLAY PIPE ONLY.
10. CASE II SHALL BE FOR ALL ALLOWABLE PIPE MATERIALS.
11. FOR ABS PIPE USE SOLVENT WELDED JOINTS ONLY.

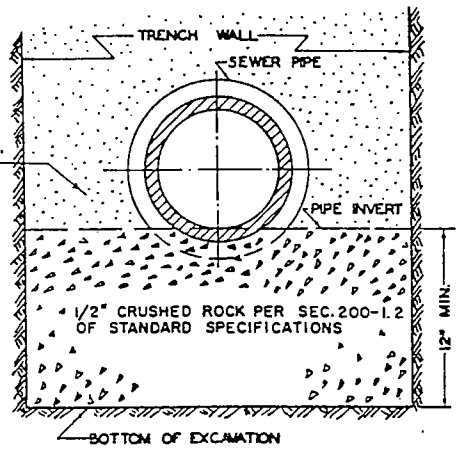
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CHIMNEY PIPE AND BASE	STANDARD PLAN 2020-0 SHEET 2 OF 2

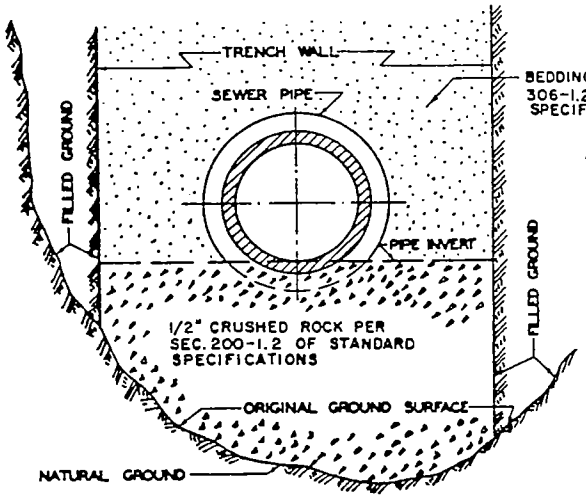
46-78-ii



CASE I: NORMAL TRENCH

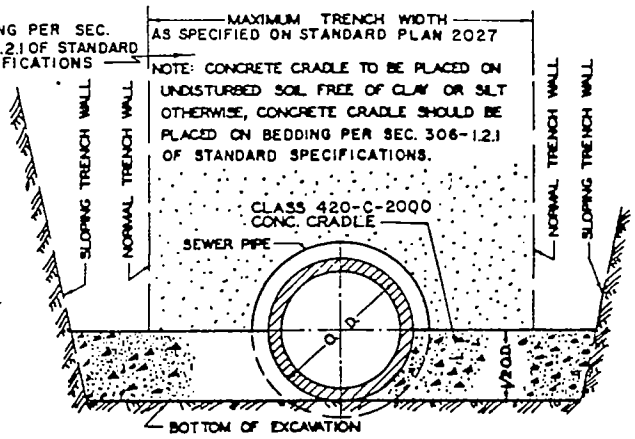


CASE II: WET, SPONGY GROUND



CASE III: FILLED GROUND
(LESS THAN 90% COMPACTION)

NOTE: WHERE NATURAL GROUND IS AT AN EXCESSIVE DEPTH BELOW THE INVERT OF THE PIPE, CONSTRUCTION SHALL COMPLY WITH THE SPECIAL NOTES ON THE PLANS.



CASE IV: BOTTOM TRENCH WIDTH EXCEEDS THE WIDTH SPECIFIED ON STANDARD PLAN 2027

ALL BEDDING MUST EXTEND TO AT LEAST 1 FOOT OVER THE TOP OF PIPE.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

BEDDING FOR SEWER PIPE

STANDARD PLAN
2021-0
SHEET 1 OF 1

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-21

ABS COMPOSITE (TRUSS) PIPE
ABS SOLID WALL (SDR 23.5 ASTM D 2751) PIPE
PVC SOLID WALL (SDR 35 ASTM D 3034) PIPE

1. SHALLOW SEWERS, COVER OVER PIPE < 4 FEET:
   USE ENCASEMENT OR SPECIAL DESIGN APPROVED BY THE DEPARTMENT.

2. ABS TRUSS OR SOLID WALL PIPE, DEPTH OF COVER 4-9 FEET:
   USE STANDARD PLAN 2021.

3. ABS TRUSS OR SOLID WALL PIPE, DEPTH OF COVER 9-20 FEET:
   USE FIGURE 1 BELOW.

4. PVC PIPE, DEPTH OF COVER 4-17 FEET:
   USE FIGURE 1 BELOW.

5. ABS TRUSS OR SOLID WALL PIPE, 20 TO 30 FEET OR PVC PIPE, 17-30 FEET:
   USE ENCASEMENT PER STANDARD PLAN 2023, CASE 1.

6. ABS OR PVC PIPE DEEPER THAN 30 FEET:
   SPECIAL DESIGN REQUIRED.

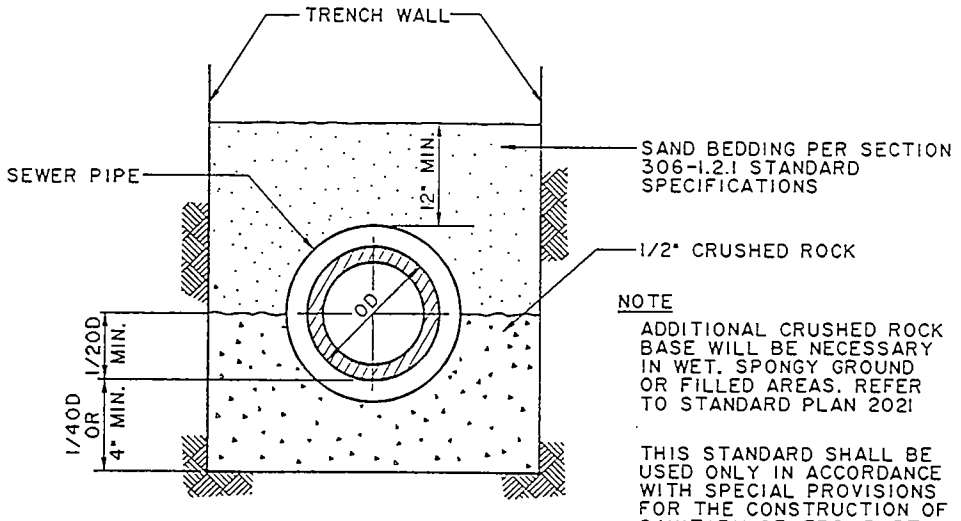


FIGURE 1

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

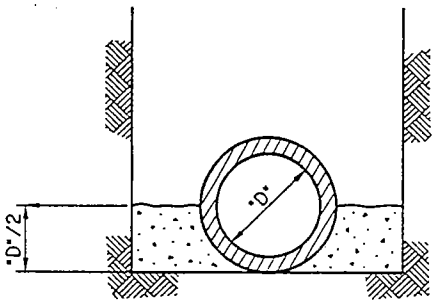
BEDDING FOR ABS & PVC SEWER PIPE

STANDARD PLAN 2022-0

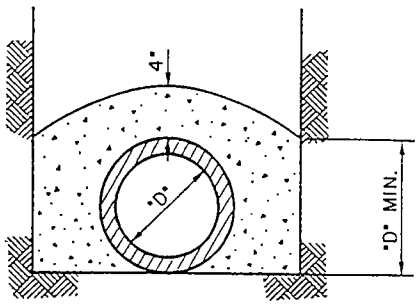
SHEET 1 OF 1

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

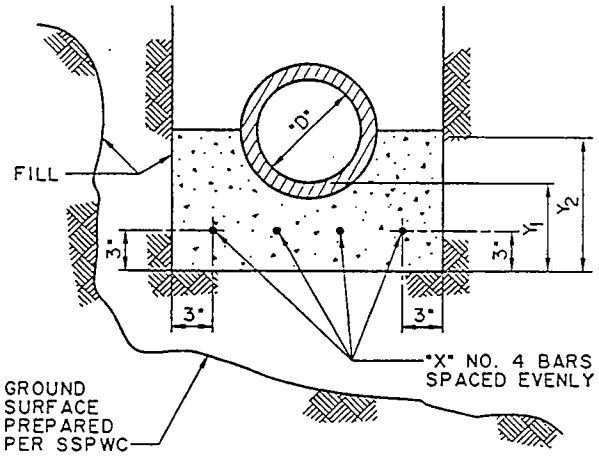
SUPERSEDES COUNTY ENGINEER STD. S-21A



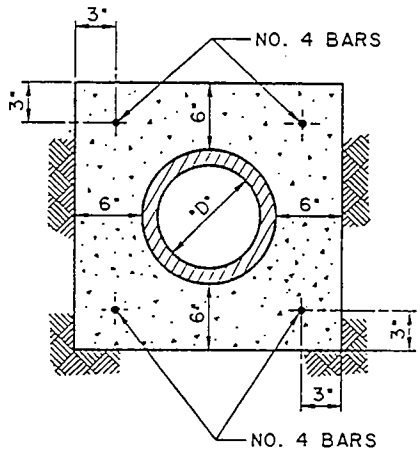
CASE I
CONCRETE CRADLE



CASE II
CONCRETE ENCASEMENT



CASE III
SPECIAL CRADLE



CASE IV
SPECIAL ENCASEMENT

SCHEDULE OF DIMENSIONS
AND REINFORCING BARS
FOR SPECIAL CRADLE - CASE III

"D" (DIAMETER)	"X" NO. OF NO. 4 BARS	THICKNESS	
		Y_1	Y_2
6"	2	4"	8"
8"	4	5"	10"
10"	4	6"	12"
12"	4	7"	15"
15"	5	9"	19"
18"	5	10"	22"
21"	6	12"	26"
24"	6	13"	28"

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CRADLING AND ENCASEMENT

STANDARD PLAN
2023-0
SHEET 1 OF 2

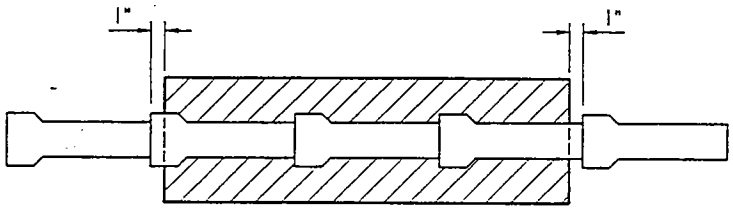
APPROVED Thomas A. Tidemanson
DIRECTOR OF PUBLIC WORKS
5/31/1992
DATE

SUPERSEDES COUNTY ENGINEER STD. S-23

46-81-i

NOTES

1. EXTEND BOTH ENDS OF CRADLE OR ENCASEMENT TO A POINT 1" SHORT OF FIRST PIPE JOINT BEYOND LOCATIONS SPECIFIED ON PLANS.



PLAN VIEW

2. APPLY FORM OIL, THIN PLASTIC SHEET, OR OTHER ACCEPTABLE MATERIAL TO PIPE, TO PREVENT BOND BETWEEN PIPE AND CONCRETE.

3. USE CLASS 420-C-2000 CONCRETE FOR ALL CASES.

4. CONDITIONS OF REQUIRED USE:

   a. CASE I - CONCRETE CRADLE
      1. WHEN OVERBURDEN DEPTH IS GREATER THAN 20'.
      2. AS A SUPPORT WHEN CROSSING OVER A STRUCTURE WITH A CLEARANCE LESS THAN 1.5' AND GREATER THAN 0.5'.
      3. WHEN WITHIN A 45° ANGLE DOWNWARD FROM THE BOTTOM OF A FOOTING.

   b. CASE II - CONCRETE ENCASEMENT
      1. WHEN CROSSING UNDER A STRUCTURE WITH A CLEARANCE LESS THAN 1.5' AND GREATER THAN 0.5'.
      2. WHEN COVER DIRT IS LESS THAN 4'.
      3. WHEN LESS THAN 3' FROM A POWER POLE.

   c. CASE III - SPECIAL CRADLE
      1. AS A SUPPORT WHEN CROSSING OVER A TRENCH GREATER THAN 4' IN WIDTH (SEE SEC. 224-0 OF THE STANDARD SPECIFICATIONS).

   d. CASE IV - SPECIAL ENCASEMENT
      1. WHEN CROSSING UNDER A STRUCTURE WITH A WIDTH GREATER THAN 5' AND A CLEARANCE LESS THAN 1.5' AND GREATER THAN 0.5'.
      2. WHEN WITHIN 10' OF A PRESSURIZED WATER MAIN OR WITHIN 25' OF A GRAVITY FLOW WATER MAIN.

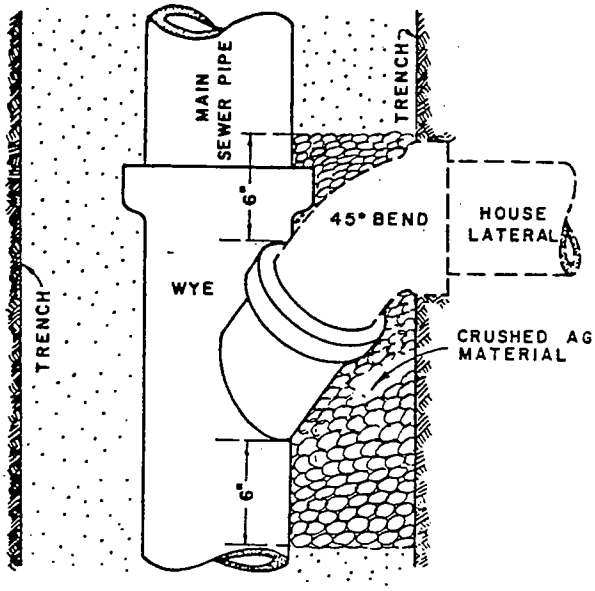
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CRADLING AND ENCASEMENT

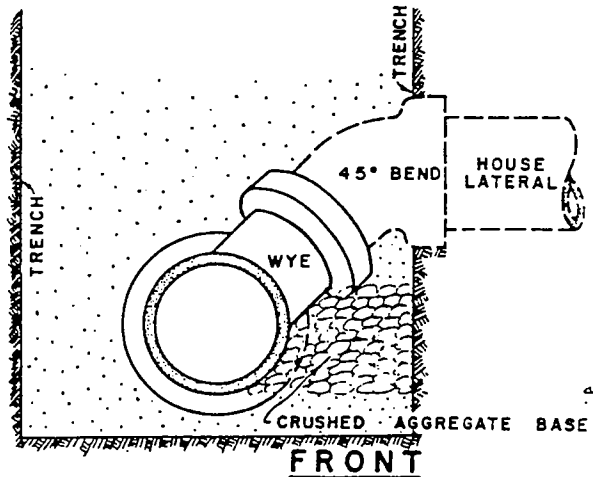
STANDARD PLAN
2023-0
SHEET 2 OF 2

WYE BRANCHES TO BE SUPPORTED AS SHOWN IN ALL CASES

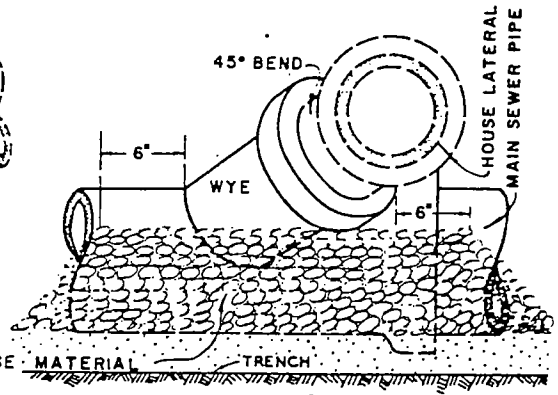
TEE BRANCHES TO BE SUPPORTED AS SHOWN IF LAID FLAT



TOP



FRONT



SIDE

NOTE:

AGGREGATE BASE MATERIAL TO BE 1/2" CRUSHED ROCK PER SEC. 200-1.2 OF SSPWC.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

WYE OR TEE SUPPORT

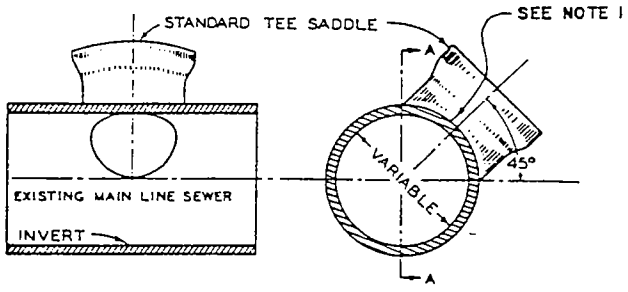
STANDARD PLAN 2024-0

SHEET 1 OF 1

APPROVED Thomas A. Gilmansen 5/31/1992

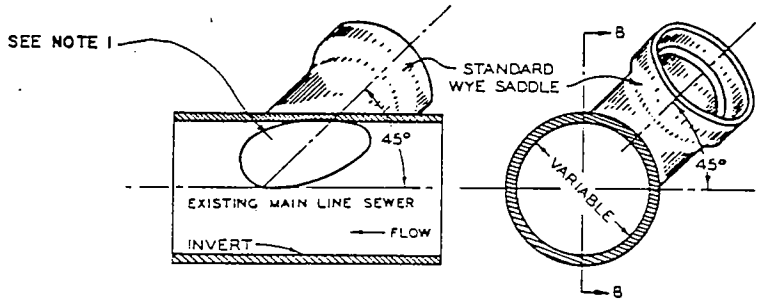
DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-26



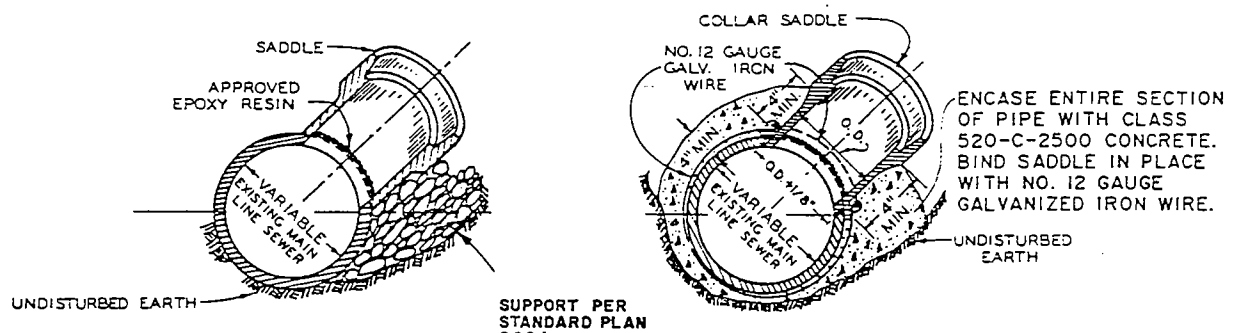
SECTION A-A END VIEW

TEE SADDLE INSTALLATION



SECTION B-B END VIEW

WYE SADDLE INSTALLATION



EPOXY RESIN JOINT CEMENT COLLAR JOINT

TEE OR WYE SADDLE JOINTS AND SUPPORT

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SADDLES FOR HOUSE LATERALS

STANDARD PLAN
2025-0
SHEET 1 OF 2

APPROVED Thomas A. Tidemanson 5/31/1992
DIRECTOR OF PUBLIC WORKS DATE

SUPERSEDES COUNTY ENGINEER STD. S-28

NOTES

1. A WYE OR TEE SADDLE SHALL BE INSTALLED BY CUTTING A NEAT HOLE CONFORMING TO THE INSIDE DIAMETER OF THE SADDLE WHEN USING A SADDLE WITHOUT COLLAR AS SHOWN IN EPOXY RESIN JOINT DETAIL. WHEN USING A SADDLE WITH COLLAR THE DIAMETER OF THE HOLE SHALL BE OUTSIDE DIAMETER PLUS 1/8" AS SHOWN IN CEMENT COLLAR JOINT DETAIL.

2. BROKEN PIECES FROM CUTTING OF THE MAIN LINE SEWER MUST BE EXTRACTED CAREFULLY PRIOR TO PLACEMENT OF THE SADDLE.

3. THE SADDLE SHALL BE CEMENTED INTO PLACE USING CLASS "D" CEMENT MORTAR PER SECTION 201-5.1 OR OTHER CEMENTING AGENT APPROVED BY THE DEPARTMENT. THE SADDLE SHALL BE HELD SECURELY IN PLACE WHILE THE CEMENT OR OTHER APPROVED CEMENTING AGENT SETS. THE INSIDE OF THE JOINT BETWEEN PIPE AND SADDLE SHALL BE FILLED WITH CEMENTING MATERIAL AND NEATLY ROUNDED.

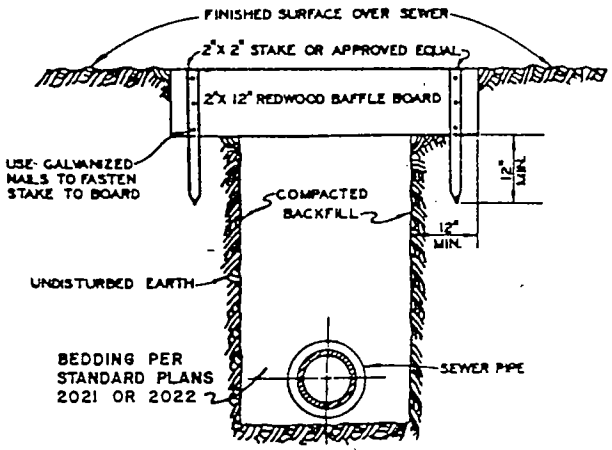
4. FOR INSTALLATION OF TEE SADDLE FOR CHIMNEY BASE REFER TO NOTES ABOVE AND STANDARD PLAN 2020, NOTE 7.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SADDLES FOR HOUSE LATERALS

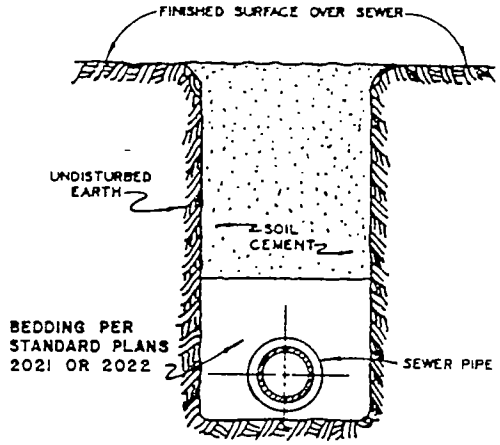
STANDARD PLAN
2025-0
SHEET 2 OF 2

TO BE USED IN EASEMENTS WHERE THE SURFACE GRADE IS GREATER THAN 30% OR WHEN DESIGNATED ON THE PLAN.



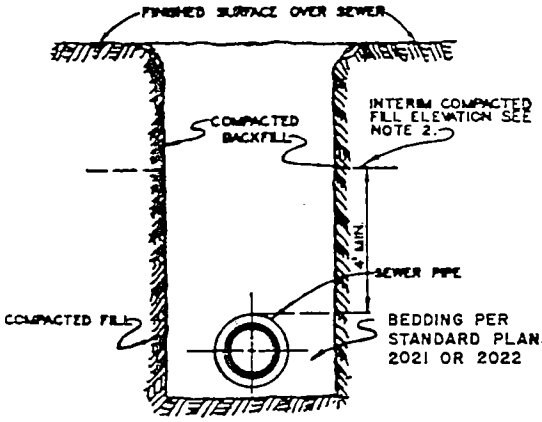
CASE I
BAFFLE BOARD

1. TO BE USED WHEN TRENCH IS EXCAVATED IN UNDISTURBED NATURAL SOIL, UNLESS CASE II APPLIES.
2. THE BAFFLE BOARDS SHALL BE SPACED SO THAT THE TOP OF THE LOWER BOARD IS LEVEL WITH THE BOTTOM OF THE NEXT HIGHER BOARD.
3. THE UPPER ONE FOOT LAYER OF THE BACKFILL IS TO BE TOP SOIL TAMPED IN PLACE, PLANTED WITH MUSTARD AND RYE GRASS AND ADEQUATELY WATERED UNTIL GROWTH IS RESTORED.



CASE II
SOIL CEMENT BACKFILL

1. TO BE USED IN SOFT SANDSTONE, SHALE, OR ROCK WHEN REQUIRED BY THE COUNTY ENGINEER; OR MAY BE USED IN LIEU OF CASE I, WITH THE APPROVAL OF THE DEPARTMENT.
2. THE ENTIRE TRENCH SHALL BE BACKFILLED WITH SOIL-CEMENT ABOVE THE BEDDING SHOWN TO THE FINISHED SURFACE UNLESS OTHERWISE NOTED ON THE PLANS.
3. THE SOIL-CEMENT SHALL CONSIST OF ONE SACK OF PORTLAND CEMENT PER CUBIC YARD OF BACKFILL MATERIAL WITH SUFFICIENT FINES TO FILL ALL VOIDS. THE SOIL AND CEMENT SHALL BE THOROUGHLY DRY MIXED. AFTER MIXING, WATER SHALL BE ADDED IN A QUANTITY SUFFICIENT ONLY TO SLIGHTLY MOISTEN THE MIXTURE SO THAT IT CAN BE PACKED BY HAND INTO A BALL AND RETAIN ITS SHAPE BUT NOT WET THE HANDS. THE SOIL-CEMENT SHALL THEN BE MECHANICALLY RAMMED INTO PLACE IN THE TRENCH IMMEDIATELY AFTER THE WATER IS ADDED.



CASE III
CERTIFIED COMPACTION

1. TO BE USED WHEN SEWER IS LOCATED IN A COMPACTED FILL AREA BEING PLACED ACCORDING TO AN APPROVED GRADING PLAN.
2. THE SEWER PIPE MUST BE LAID IN A TRENCH EXCAVATED IN THE COMPACTED FILL SLOPE AND DEEP ENOUGH TO PROVIDE AT LEAST 4 FEET OF COVER OVER THE PIPE.
3. CERTIFICATION IS REQUIRED BY A SOIL TESTING LABORATORY AND SOILS ENGINEER THAT THE COMPACTION FOR THE BACKFILL MEETS THE GRADING PLAN REQUIREMENTS.

NOTES:

1. IN ALL CASES ANCHOR BLOCKS WILL BE REQUIRED IN ACCORDANCE WITH APWA STANDARD PLAN 221 UNLESS OTHERWISE NOTED ON THE PLANS.
2. ANY ALTERNATE MATERIALS, PLANTS OR METHODS MUST BE SPECIFICALLY APPROVED BY THE DEPARTMENT.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

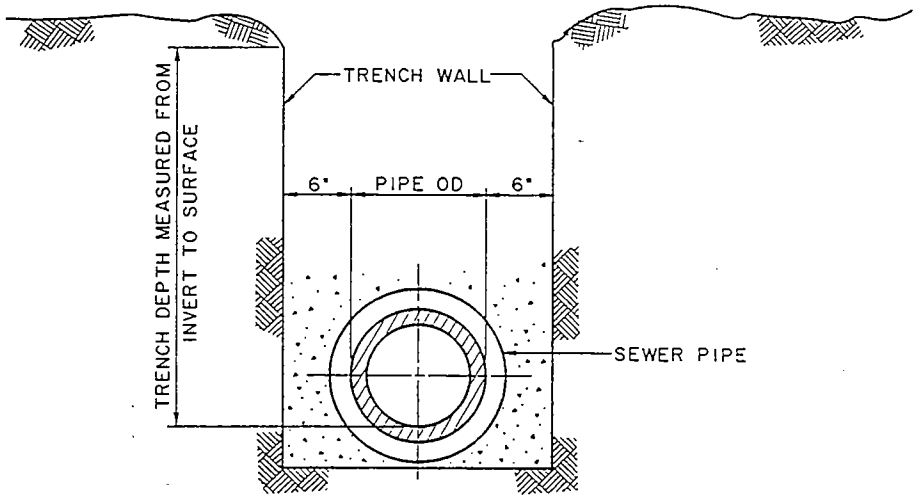
EROSION PROTECTION IN STEEP SLOPES

STANDARD PLAN 2026-0

SHEET 1 OF 1

APPROVED Thomas A. Gilmanson 5/31/1992
DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-31



MINIMUM TRENCH WIDTH

MAXIMUM TRENCH WIDTH

MEASURED AT TOP OF PIPE

PIPE SIZE	DEPTH OF TRENCH					
	18'-20'	16'-18'	14'-16'	12'-14'	10'-12'	LESS THAN 10'
4" & 6"	2'-2"	2'-2"	2'-2"	2'-2"	2'-2"	NONE
8"	2'-3"	2'-3"	2'-4"	2'-4"	2'-6"	NONE
10"	2'-5"	2'-6"	2'-7"	2'-8"	2'-9"	NONE
12"	2'-8"	2'-9"	2'-9"	2'-11"	3'-1"	NONE
15"	2'-11"	3'-0"	3'-2"	3'-3"	3'-6"	NONE
18"	3'-3"	3'-4"	3'-6"	3'-8"	4'-0"	NONE
21"	3'-7"	3'-8"	3'-10"	4'-1"	4'-6"	NONE
24"	3'-9"	3'-11"	4'-2"	4'-5"	4'-10"	NONE
27"	4'-1"	4'-3"	4'-6"	4'-10"	5'-4"	NONE
30"	4'-4"	4'-7"	4'-10"	5'-3"	5'-10"	NONE
33"	4'-8"	4'-11"	5'-2"	5'-8"	6'-5"	NONE
36"	4'-11"	5'-2"	5'-6"	6'-1"	6'-11"	NONE

IF MAXIMUM ALLOWABLE WIDTH SPECIFIED IS EXCEEDED, SPECIAL BEDDING & CRADLING MUST BE PROVIDED PER STANDARD PLAN 2021, AT CONTRACTOR'S EXPENSE.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

ALLOWABLE TRENCH WIDTHS

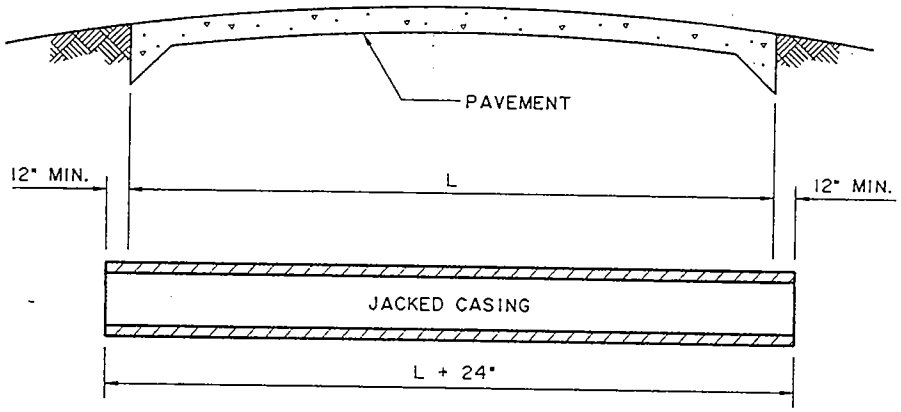
STANDARD PLAN 2027-0

SHEET 1 OF 1

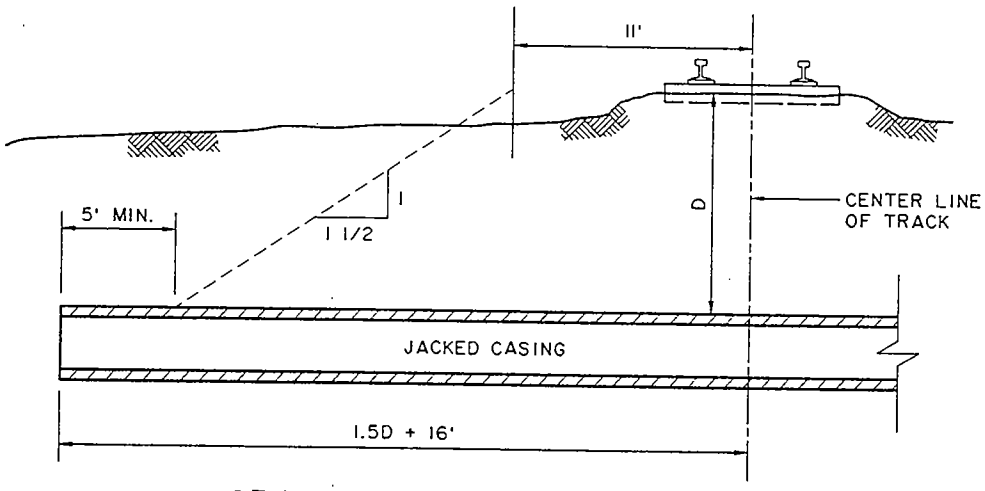
APPROVED Thomas A. Tidemanson 5/31/1992

DIRECTOR OF PUBLIC WORKS — DATE

SUPERSEDES COUNTY ENGINEER STD. S-33



CROSSING UNDER ROADWAY



CROSSING UNDER RAILROAD

DIAMETER OF STEEL CASING	
PIPE SIZE	CASING DIAMETER
6"	30"
8"	30"-36"
10"	33"-36"
12"	36"-42"
15"	42"-48"

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

JACKING STEEL CASING FOR SEWER PIPE

STANDARD PLAN
2028-0
SHEET 1 OF 2

APPROVED Thomas A. Tidemanson
DIRECTOR OF PUBLIC WORKS
5/31/1992
DATE

SUPERSEDES COUNTY ENGINEER STD. S-37

46-86-c

NOTES

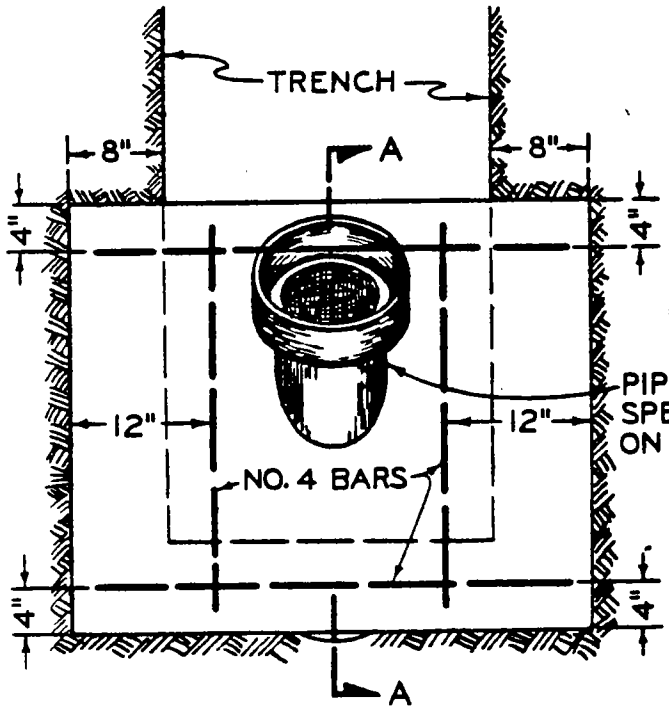
1. JACKED STEEL CASING SHALL BE INSTALLED PER SECTION 306-2.3 OF THE STANDARD SPECIFICATIONS.
2. USE TYPE "D", "F" OR "G" JOINTS PER SECTION 208-2 OF THE STANDARD SPECIFICATIONS FOR VCP INSTALLED IN CASING.
3. THE CASING THICKNESS SHALL BE NOT LESS THAN 3/8".
4. FOR PIPE SIZES 18" AND GREATER, CHECK WITH THE DEPARTMENT FOR DIAMETER AND THICKNESS OF CASING.
5. THE LENGTH OF CASING SHALL BE AS SHOWN, EXCEPT AS OTHERWISE INDICATED ON PLANS.
6. ANY ALTERNATE MATERIALS, SIZES OR CONSTRUCTION METHODS MUST BE SPECIFICALLY APPROVED BY THE DEPARTMENT.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

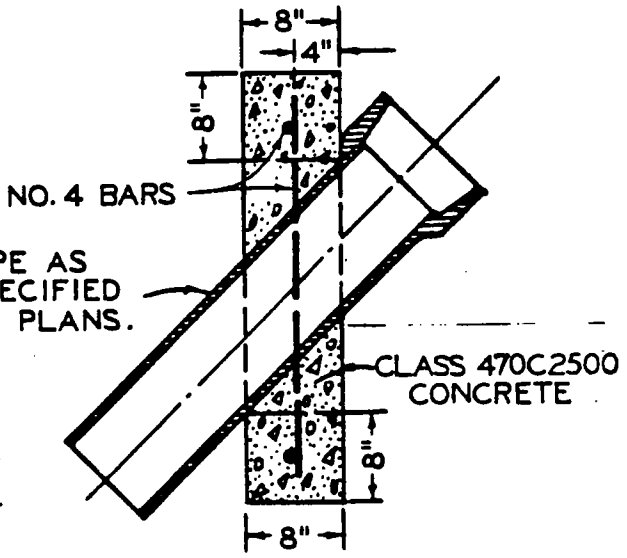
JACKING STEEL CASING FOR SEWER PIPE	STANDARD PLAN 2028-0 SHEET 2 OF 2

TO BE USED WHEN SEWER GRADE IS GREATER THAN 30%, OR WHEN DESIGNATED ON THE PLAN.

THIS STANDARD APPLIES TO 8 INCH THROUGH 12 INCH PIPE SIZES. LARGER SIZE PIPES WILL REQUIRE A SPECIAL DESIGN.



ELEVATION



SECTION A-A

ANCHOR BLOCK

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ASSISTANT DEPUTY

COUNTY ENGINEER

COUNTY ENGINEER STANDARD S-24

DATE: 3/80

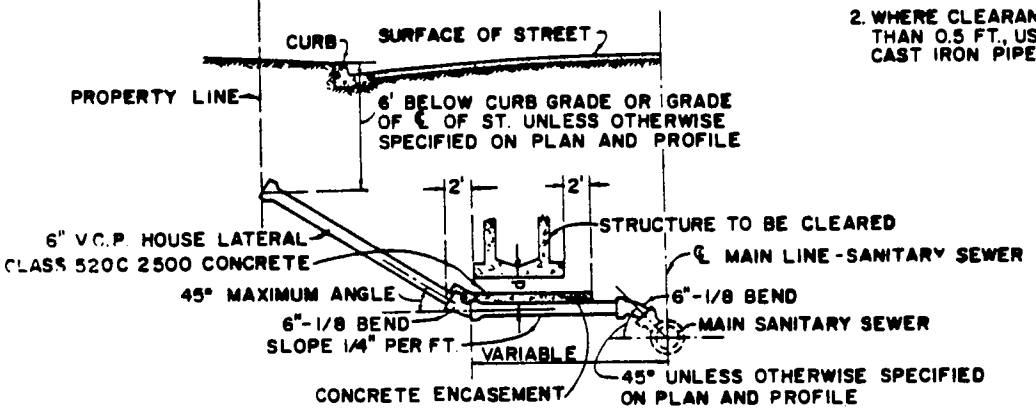
DESIGN RCE 10443

CASE I

SPECIAL HOUSE LATERAL UNDER STRUCTURE

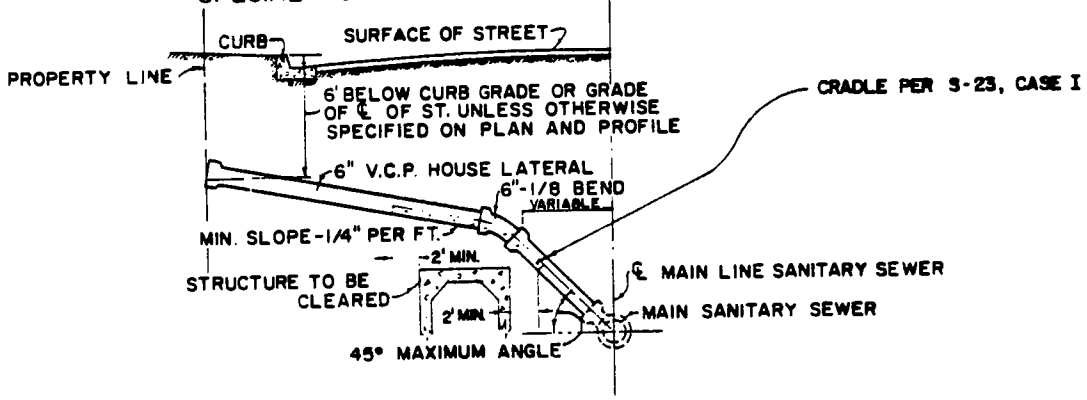
NOTES:

1. WHERE CLEARANCE "d" IS 0.5 TO 1.5 FT., USE V.C.P. AND ENCASE PER S-23, CASE II.
2. WHERE CLEARANCE "d" IS LESS THAN 0.5 FT., USE CLASS 150 CAST IRON PIPE.



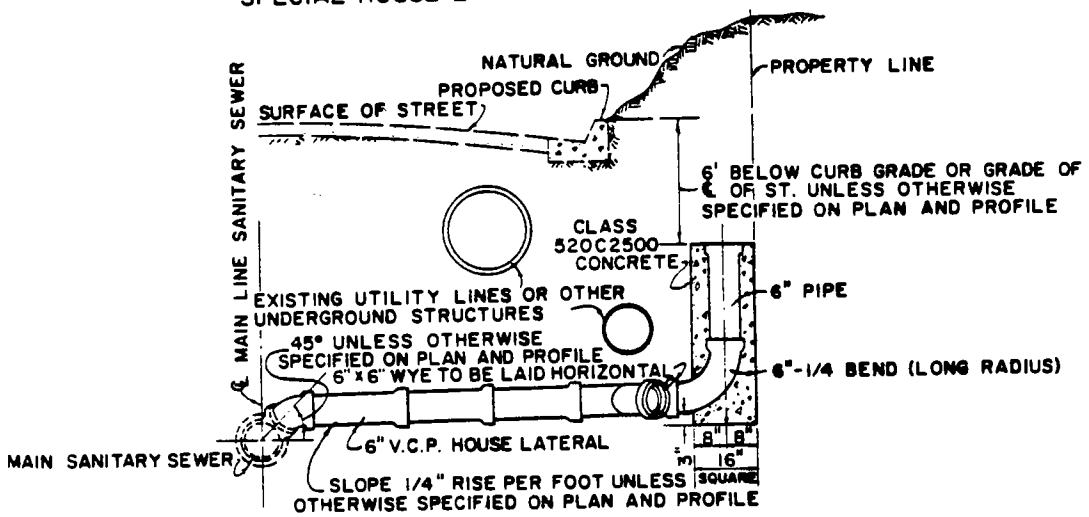
CASE II

SPECIAL HOUSE LATERAL OVER STRUCTURE



CASE III

SPECIAL HOUSE LATERAL WITH CHIMNEY



SPECIAL HOUSE LATERALS

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

COUNTY ENGINEER STANDARD **S-25**

DATE: 3/80

ASSISTANT DEPUTY

COUNTY ENGINEER

DESIGN RCE 10443

46-89

Engineer: _____
Date: _____

COUNTY OF LOS ANGELES
STANDARD SEWER GRADE SHEET

Sheet ___ of ___ Sheets _____

P.C. No. _____
PAGE No. ___ SEC. ___
STREET _____

Station	MAIN LINE SEWER			HOUSE LATERALS				Stakes Set: / Remarks
	Surface Elev. over ℄ of M.L.S.	M.L.S. Invert Elev.	Cut	Curb Elev. Above end of H.L.	Elev. of Invert at End of H.L.	Depth of Invert below Curb or ℄/St.	Cut	

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ASSISTANT DEPUTY

COUNTY ENGINEER

46-89

COUNTY ENGINEER STANDARD
DATE: 3/80 S-C2
DESIGN Martin L. Murphy R.C.E. No. 18,594

NORMAL DROPS STRAIGHT THROUGH MANHOLES FOR MINIMUM GRADES OR GREATER EXCEPT AS NOTED BELOW

	INLET	8"	10"	12"	15"	18"
OUTLET	8"	.10	.10	.10	.10	.10
	10"	.17	.10	.10	.10	.10
	12"	.33	.17	.10	.10	.10
	15"	.58	.42	.25	℄	—
	18"	.80	.71	.63	.50	℄

NOTE: FOR RIGHT ANGLE CONNECTIONS, ADD 0.10 OF A FOOT TO EACH OF THE ABOVE VALUES.

WHEN PIPES ON BOTH SIDES OF THE MANHOLE ARE THE SAME SIZE AND THE AVERAGE OF THE GRADES ON BOTH SIDES EXCEEDS 2.50 %, AN AVERAGE DROP SHALL BE TAKEN ACROSS THE MANHOLE, NOT TO EXCEED .60, INSTEAD OF THE VALUES IN THE ABOVE TABLE.

NORMAL DROPS STRAIGHT THROUGH MANHOLES FOR GRADES LESS THAN MINIMUM EXCEPT AS NOTED BELOW

	INLET	8"	10"	12"	15"	18"
OUTLET	8"	℄	—	—	—	—
	10"	.10	℄	—	—	—
	12"	.18	.10	℄	—	—
	15"	.31	.23	.14	℄	
	18"	.80	.71	.63	.50	℄

NOTE: FOR RIGHT ANGLE CONNECTIONS ADD 0.10 OF A FOOT TO EACH OF THE ABOVE VALUES.

NOTES: 1. ℄ INDICATES NO DROP ACROSS M.H. AND ELEV. TO BE SHOWN AT THE CENTER OF MANHOLE.

2. FOR TRAP M.H.'S ALL INLETS TO BE AT SAME ELEVATION. OUTLET MAY BE 0.05 OF A FOOT LOWER.

3. PERMISSION FOR DEVIATIONS FROM THE ABOVE VALUES, OR SMALLER DROPS FOR PIPES OVER 18", TO BE APPROVED BY THE COUNTY ENGINEER.

4. THE MINIMUM GRADES FOR VARIOUS PIPE SIZES ARE DETERMINED BY THE CHART ON COUNTY ENGINEER STANDARD S-C4

TABLE FOR COMPUTING NORMAL DROPS THROUGH MANHOLES

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ASSISTANT DEPUTY

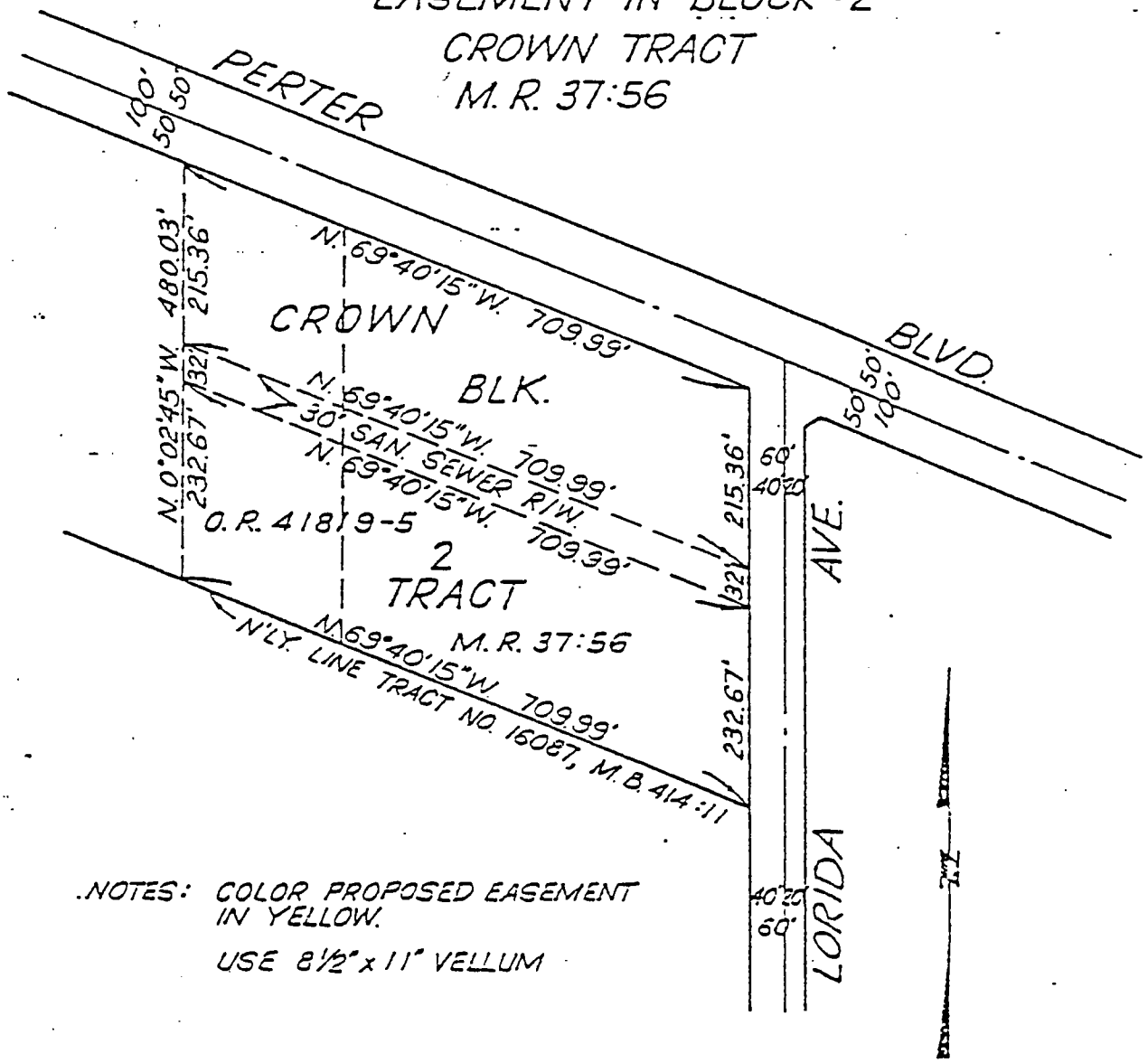
COUNTY ENGINEER

COUNTY ENGINEER STANDARD S-C5

DATE : 3/80

DESIGN RCE 10443

PROPOSED SANITARY SEWER EASEMENT IN BLOCK-2 CROWN TRACT M. R. 37:56



.NOTES: COLOR PROPOSED EASEMENT IN YELLOW.

USE 8½" x 11" VELLUM

P.C. Nº _____

T. G. _____

SCALE: 1" = 200'

321. 1-20

SANITATION DISTRICTS OF LOS ANGELES COUNTY

John D. Parkhurst
Chief Engineer and General Manager

August 17, 1972

Policy on Rainwater

It is the general policy of the Sanitation Districts that rainwater will not be permitted access to the Districts' sewerage system.

Recognizing that there may be some situations where roofing to prevent drainage to the sewerage system is impossible or prohibited by local regulation, the following alternatives may be approved when deemed necessary by the Districts.

1. A Rainwater Diversion System

   A rainwater diversion system will only be approved in those communities where the local city is willing and able to assume responsibility for an adequate inspection program. Such a program must include:

   a. Inspection of each rainwater diversion system within the community prior to the commencement of the rainy season.

   b. Inspection of the operation of each rainwater diversion system during any storm in which total rainfall exceeds 2 inches.

   c. Submitting annually to the Districts a record of all inspections, including the date, time and conditions observed.

   d. Recommendation of corrective action to industries confirmed by follow-up inspections whenever systems are found to be improperly maintained.

   Any commercially available device which can be shown to function in a manner to divert rainwater to a storm drain or storage system whenever rainfall exceeds 0.1 inch of rain will be acceptable to the Districts. However, approval of the device must be obtained at the time the system is approved by the Districts.

2. Storage of Excessive Rainfall Followed by Off-Peak Discharge to the Sewerage System

The Regional Water Quality Control Board has recently prohibited the discharge of rainwater from certain industrial areas under any circumstances. There will therefore be some situations where roofing cannot be provided and where a rain operated device to divert rainfall to the storm drain system will be prohibited. In these situations, industries will be permitted to provide storage of sufficient capacity to retain the quantity of rainwater resulting from a 6-inch rainfall over the relevant surface area. This capacity must be so arranged that it will only receive rainwater after a 0.1 inch rainfall has actuated a diversion system similar to that described in (1) above. Discharge of this collected rainwater to the sewerage system must be done between 10:00 p.m. and 8:00 a.m. at least 24 hours after cessation of rainfall. Use of this system is also conditional upon acceptance of this inspection responsibility by the local agency described above.

In the event that the local community will not accept responsibility for inspection of rain diversion systems, the only approved solution will be roofing of all areas generating wastes which must go to the sewerage system.

TABLE 1
INFORMATION REQUIREMENTS FOR FINDING OF CONFORMANCE

Proponents of off-site hazardous waste facilities, except otherwise exempted by the State Department of Health Services, must submit proposals to the Los Angeles County Department of Public Works. The facility proposal shall contain the following information as a minimum:

1. Identity of project proponent, owner, and operators.
2. Description of project location.
3. Evidence of filing notice with the California Office of Planning and Research.
4. Project implementation schedule including planned dates for construction start, construction completion, start-up, planned expansion, and closure.
5. Project design capacity.
6. Identification of waste type to be handled by California Waste Code.
7. Identification of waste sources.
8. Projection of waste quantity to be handled at start-up and at 5-year intervals in project life.
9. Identification of waste transport corridors and destinations.
10. Technology to be used for management.
11. Environmental documentation (initial study, negative declaration, categorical exemption, or a draft environmental impact report and health risk assessment).
12. Identification of waste reduction and resource recovery efforts.
13. Expected method of financing.
14. Information and operation plan for meeting applicable permit/regulatory requirements.
15. Identification of evacuation routes and inclusion of emergency response plan.
16. Consistency with appropriate city's general plan.
17. A program for training of personnel.
18. Description of types of permits obtained/applied for.

Source: Los Angeles County Department of Public Works, December 1987

DEPARTMENT OF PUBLIC WORKS
BUILDING & SAFETY DIVISION

Plan Check No._____
District No._____
Date _____

WASTE STORAGE AREA
PLAN CHECK REVIEW

ADDRESS_____

Type (Res, Coml, Ind, Pub)_____Floor Area_____No. of Units_____

Title 14, Division 7, Section 17313 of the California Administrative Code requires that "The design of any new, substantially remodeled or expanded building or other facility shall provide for proper storage or handling which will accommodate the solid waste loading anticipated and which will allow for efficient and safe waste removal or collection. The design shall demonstrate to local land use and building permit issuing authorities that it includes the required provisions."

The guidelines listed below are in response to the above-stated standard and apply to industrial, commercial, and institutional facilities and to residential facilities of four units or more. The Building Official may approve alternatives when it is demonstrated that they provide adequate, safe and efficient storage of the waste expected to be produced at the facility.

I. SIZE REQUIREMENTS

1. The following are required for residential facilities of 4 to 12 units.

   a. If waste storage areas are provided for individual units, width shall not be less than 3 feet nor length less than 4 feet per unit with an additional storage area of not less than 3 feet in width, nor less than 12 square feet overall. _____

   b. If a single storage area is provided it shall be not less than 4-½ feet in width nor less than 6 feet in length with not less than 5 square feet of additional space for each unit over 4. Required waste storage area is _____ sq. ft. _____

2. The following are required for residential facilities of over 12 units.

   a. If waste storage areas are provided for individual units, width shall not be less than 3 feet nor length less than 4 feet per unit with an additional storage area of not less than 4-½ feet in width nor less than 6 feet in length. _____

   b. If a single storage area is provided it shall be not less than 4-½ feet in width nor less than 15 feet in length with not less than 5 square feet of additional space for each unit over 13. Required storage area is _____ sq. ft. _____

3. Industrial, commercial and institutional facilities shall have 10 square feet of waste storage area for each 1000 square feet or portion thereof of net floor area of the facility for the first 20,000 square feet and 5 square feet for each additional 1,000 square feet over that, but not less than 4-½ feet in width nor less than 6 feet in length. Required storage area is _____ sq. ft. _____

II. LOCATION

4. Waste storage areas shall be situated so that:

   a. They do not interfere with the traffic patterns of individuals or vehicles. _____

   b. They are readily accessible to collection personnel at all times. _____

5. Exterior waste storage areas for residential facilities shall be located so as to be screened from view from public streets or highways. _____

III. GRADING

6. The waste storage area shall be graded so that storage containers remain at rest without auxiliary restraining devices. _____

IV. REMARKS_____

_____

Rev. 5-85 B & S

46-95

PROPOSAL REQUIREMENTS FOR FINDING OF CONFORMANCE

Proponents of solid waste facilities, except otherwise exempted, must submit proposals to the Los Angeles County Integrated Waste Management Task Force for a Finding of Conformance. The facility proposal shall contain the following information as a minimum:

1. Identity of project proponent, owner, and operator.

2. Description of project location.

3. Project implementation schedule including planned dates for construction start, construction completion, start-up, planned expansion, and closure.

4. Project design capacity or acreage as appropriate.

5. Description of waste material to be handled.

6. Identification of waste sources.

7. Projection of waste quantity to be handled at start-up and at five-year intervals in project's life.

8. Identification of waste transport corridors and destination.

9. Technology to be used for treatment facilities.

10. Planned sites classification for disposal sites.

11. Planned end uses for the land for disposal sites.

12. Environmental documentation (initial study, negative declaration, categorical exemption, or a draft environmental impact report).

13. Planned market for materials/energy recovered from resource recovery projects.

14. Expected method of financing.

15. Information and operations plan for meeting applicable permit/regulatory requirements.

16. Resources recovery alternatives. Title 14, California Administrative Code, Section 17134, requires that the CoSWMP "delineate the resource recovery alternatives to disposal when selection and siting of a new solid waste facility is made". Accordingly, a proposal to the Los Angeles County Solid Waste Management Committee for a Finding of Conformance should include an economic assessment of resource recovery options when new or expanded landfills, transfer stations, or other solid waste facilities are proposed.

17. Demonstration of compliance with consistency requirements as required by California Goverment Code Section 66796.

18. A litter control program designed to prevent the accidental release of litter from vehicles entering and leaving the site.

19. A waste load checking program design to prevent disposal of hazardous and other unacceptable waste from the site.

MA:mc2/FINDING

CHAPTER 47

SEWER AREA STUDIES

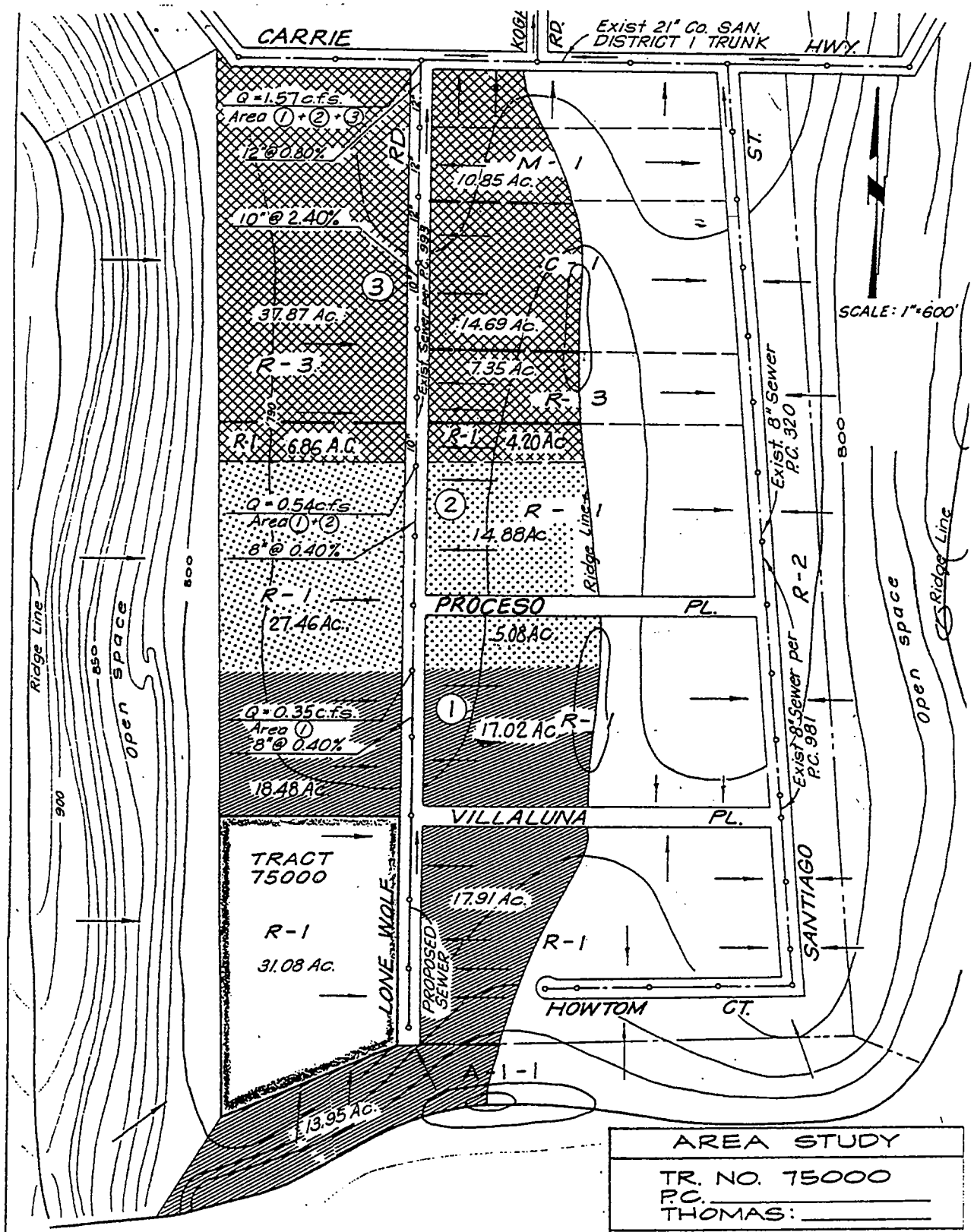
A sewer area study is an analysis of the entire drainage area as it affects a proposed private contract sewer. This includes establishing the anticipated design sewage flows generated by the anticipated development upstream of the sewer project, the design sewage flows generated by the area served by the proposed sewer and an outlet location downstream of the proposed sewer that can accept the total anticipated flows. The outlet point of the private contract sewer is usually a trunk sewer owned by the outlet agency or a collector sewer owned by the County that has the capacity to handle the discharge flows. Once flows are established, the pipe sizes are determined.

An area study must be made for all private contract sewer projects. The private engineer should consult with the Sewer Subunit whenever there are questions regarding the study area or to see if any recent studies have been done for the area in question.

The area study map (made in pencil on vellum) must show not only the area being served but all areas tributary to the sewers under study and an outlet point. As an adequate area study is necessary to determine sewer depth, flow capacities, and other critical design data, the study should follow the instructions and sample shown on Pages 47-2 through 47-5.

The area study must have calculations to determine the flow within the various segments of the proposed sewer system and to determine sewage flows upstream of the sewer system. Once the flows are determined, an outlet must be designed or established if the outlet is into an existing collector sewer. It must be determined that the collector sewer will have the capacity to receive the additional flow; if not, either another outlet to a trunk sewer must be established, or the downstream sewer line to the trunk sewer must be enlarged to handle the additional flows. It should be noted that once the trunk sewer is reached, flow capacities do not have to be established, for it is the responsibility of the outlet agency to receive all flows within their territory.

Once the area study is complete and approved by the Sewer Unit, the sewer design can begin. Sewer design requirements are presented in Chapter 46.



SAMPLE ONLY

AREA STUDY
TR. NO. 75000 P.C. _____ THOMAS: _____
PREPARED BY: _____ REG. C.E. Nº _____
APPROVED: THOMAS A. TIDEMANSON BY: _____ DATE R.E. Nº _____ OFFICE OF THE DEPT. OF P.W.

47-2

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

AREA STUDY

An area study must be made for all private contract sewer projects. See attached sample. The area study must include the following items:

1. Area being served - In Acres
2. Determined Tributary area to main line being designed (incl. areas of future devel.)- In Acres
3. Existing and Land Use Zoning
4. Anticipated Sewer Discharge in cfs of total area based on zoning, and/or heavy water users
5. Existing or proposed utilities if in conflict
6. Existing and proposed sewers showing pipe size and grade leading up to the trunk line in order for you to evaluate the impact of your proposed development on the existing system
7. Direction of sewer flow
8. Contour lines
9. Scale not to be less than 1"=600'
10. North arrow pointing up or to the left

ZONING COEFFICIENTS

ZONE	COEFFICIENT (cfs/Acre)
Agriculture	0.001
Residential	
R-1	0.004
R-2	0.008
R-3	0.012
R-4	0.016 *
Commerical	
C-1 through C-4	0.015 *
Heavy Industrial	
M-1 through M-4	0.021 *

* Individual building, commercial or industrial plant capacities shall be the determining factor when they exceed the coefficients shown.

The coefficient to be used for any zoned areas not listed will be determined by the County based upon the intended development and use.

The County shall determine which of the coefficients or combination of coefficients shall be used for design as determined by the established or proposed zoning in the study area. Any modifications to these coefficients due to topography, development, or hazard areas, shall be approved by the Department of Public Works.

SAMPLE SEWER AREA STUDY

CALCULATIONS:

AREA (1): A-1-1 Zone = 13.95 Ac
R-1 Zone = 17.91 Ac + 17.02 Ac + 18.48 Ac + 31.08 Ac

$Q_1 = (0.001)(13.95) + (0.004)(17.91 + 17.02 + 18.48 + 31.08)$

$= \boxed{0.35 \text{ cfs}}$

Capacity: 8" @ 0.40% = 0.36 cfs (See S-C4 chart on page 47-5)
0.36 cfs > 0.35 cfs .. O.K.

AREA (2): R-1 Zone = 5.08 Ac + 14.88 Ac + 27.46 Ac

$Q_2 = (0.004)(5.08 + 14.88 + 27.46)$

$= \boxed{0.19 \text{ cfs}}$

$Q_1 + Q_2 = 0.35 + 0.19$

$= \boxed{0.54 \text{ cfs}}$

Capacity: 8" @ 0.40 % = 0.36 cfs

0.36 cfs < 0.54 cfs .. Not enough capacity.
Reconstruction of 350' of 8" V.C.P. is necessary.

AREA (3): R-1 Zone = 6.86 Ac + 4.20 Ac
R-3 Zone = 37.87 Ac + 7.35 Ac
C-1 Zone = 14.69 Ac
M-1 Zone = 10.85 Ac

$Q_3 = (0.004)(6.86 + 4.20) + (0.012)(37.87 + 7.35) + (0.015)(14.69) + (0.021)(10.85)$

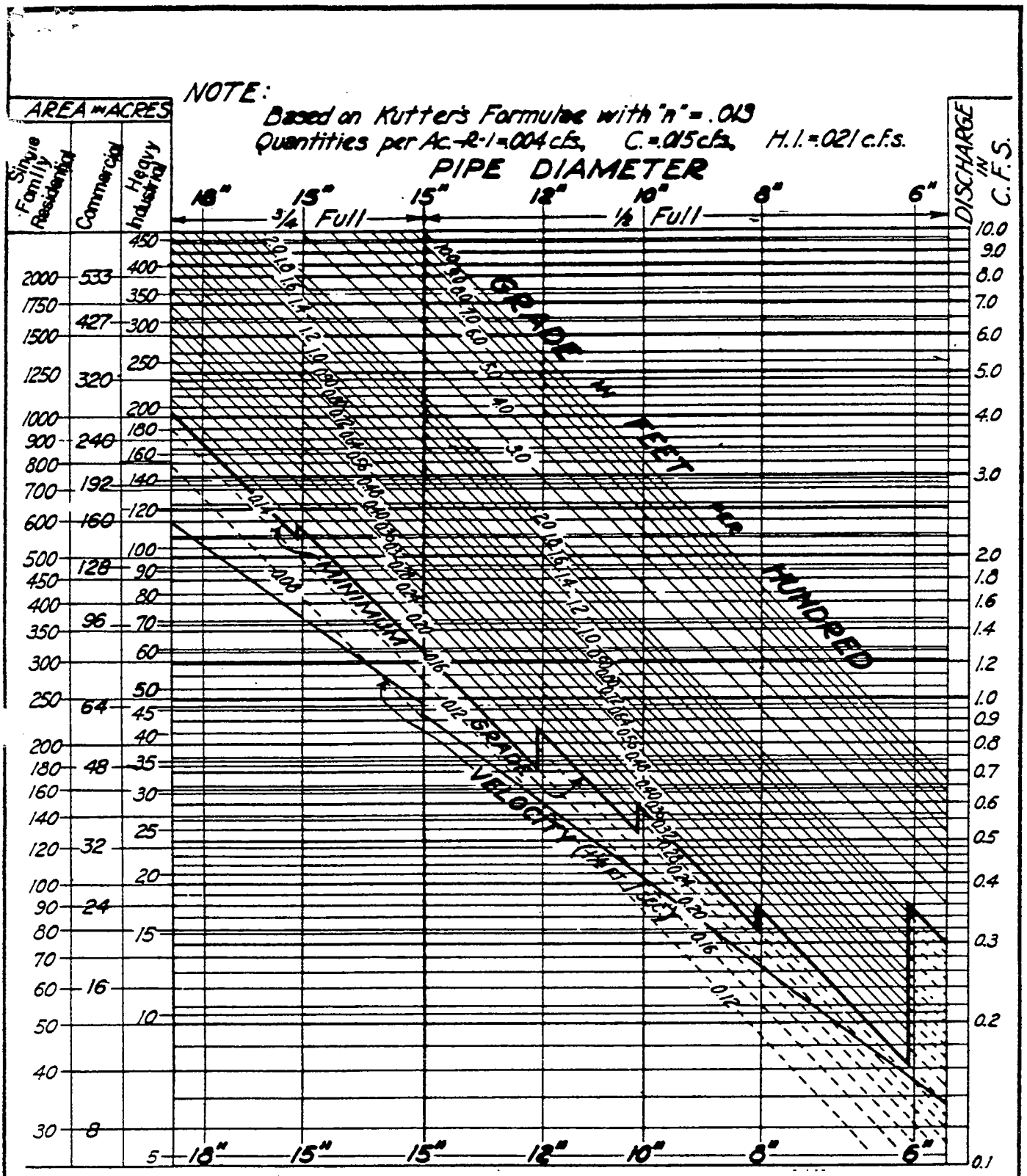
$= \boxed{1.03 \text{ cfs}}$

$Q_1 + Q_2 + Q_3 = 0.35 + 0.19 + 1.03$

$= \boxed{1.57 \text{ cfs}}$

Capacity: 10" @ 2.4 % = 1.63 cfs
12" @ 0.80 % = 1.60 cfs

1.63 cfs and 1.60 cfs > 1.57 cfs .. O.K.



NOTE: USE 15" - 1/2 FULL FOR COMPUTING DESIGN CAPACITY OF A NEW SEWER SYSTEM. USE 15" - 3/4" FULL FOR CHECKING CAPACITY OF EXIST. SEWER SYSTEM.

FLOW DIAGRAM FOR THE DESIGN OF CIRCULAR SANITARY SEWERS

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

ASSISTANT DEPUTY

COUNTY ENGINEER

COUNTY ENGINEER STANDARD S-C4

DATE: 3/80

DESIGN RCE 10443

CHAPTER 48

DRAFT

WATER SYSTEM PLANS AND SUPPORTING DATA

The procedures for enforcing the water code are described in Chapter 25 of this Manual. Item I of this chapter replaces the old Utility Manual and becomes the equivalent to the current Utility Manual in force.

I. Water Utility Manual

A. General Provisions

1. General Statement

This Utility Manual, Chapter 48 of the Land Development Procedure Manual, filed with the Board of Supervisors of the County of Los Angeles on _____, replaces the Utility Manual originally filed on January 2, 1962, and July 1, 1964. This chapter was prepared pursuant to Section 20.16.200 of Title 20, Division 1, of the County Code (Water Code) and pursuant to provisions in Section 21.32.110, establishes the minimum acceptable standards of materials and methods used in construction of water distribution systems in the County of Los Angeles.

2. Enforcement

Provisions of this Utility Manual, in relation to the above mentioned codes, should be enforced by the Director of Public Works of the County of Los Angeles in his capacity as the County Engineer unless otherwise specifically noted, hereinafter referred to as "Director".

3. Specifications References

All references to the Standard Specifications should mean "Standard Specifications for Public Works Construction", the latest edition to be approved by the "Director".

Item W on Page 48-23 describes the organization or agency and their specifications thereof to which reference is hereinafter made in the form of abbreviations. The latest approved standard specifications should apply unless otherwise noted.

B. Water Distribution System Plans

All water distribution plans and specifications submitted to the Land Development Division for constructing required improvements for new subdivisions or other development projects should be prepared in accordance with the requirements of the water utility serving that development. This water utility must be registered with the County of Los Angeles. In addition, the water distribution system plans must comply with Title 20, Division 1 of the County Code (Water Code) and the requirements presented in this Chapter of the Land Development Procedure Manual. This is mandated in Section 20.16.200 of the County Code. (See Chapter 60 of this Manual.)

The water distribution plans must include the source of water and water storage. This includes such items as water wells, water treatment facilities, water storage facilities and water mains that are required for the development. This Chapter contains most of the necessary standards to be met.

Water system plans should conform and include the following:

1. All plans should be drawn on sheets that can produce clean copies and are a maximum 32 inches wide by 22 inches high.

2. A title block should be drawn on each sheet in the lower right hand corner, containing project name, pertinent information concerning that sheet, including the water purveyor's name(s),

sheet number, drawing scale and necessary signatures and date plans were completed and accepted by the water purveyor.

3. The North arrow should be directed in an upward position and towards the left, if necessary. The north arrow should never point down or to the right except for segmented portions of winding streets where continuity to the adjoining portions of the drawing is important.

4. Horizontal scale should be one inch equals forty feet, except on occasions when the drawing is extremely congested with details or substructures; than a scale of one inch equals 20 feet or one inch equals to 10 feet should be used.

5. Water distribution system plans for water distribution systems must show in plan view the following:

   a. The location and dimensions of dedicated streets and easements.

   b. The lots to be served by the water main.

   c. All existing or proposed curbs, gutters and pavement referenced to the road plans.

   d. The proposed alignment of the water main and the location of all distribution system facilities such as valves, fire hydrants, fittings, etc.

   e. All existing and proposed substructure utilities referenced to the appropriate plans.

   f. All existing and proposed obstructions such as vaults, catch basins, traffic islands, etc., referenced to the appropriate plans.

6. The profile for all pipes installed in non-paved easements must contain the following:

   a. Proposed finished grade.

   b. Existing ground line.

   c. All proposed and existing utility crossings.

7. All pipe installed in non-paved easements steeper than 5 horizontal to 1 vertical should have special erosion prevention measures designed by a geotechnical engineer. (See Chapter 49 of this Manual.)

8. All Water distribution system plans should meet the following requirements:

   a. All plans should be based on actual field surveys by a licensed land surveyor or registered civil engineer authorized to perform land surveying in California. (See Chapter 61 of this Manual.)

   b. All surveys must be referenced to official control points and bench marks and be referenced on the plans, and be of sufficient accuracy so that the proposed facility can be accurately staked for construction, and then be readily located after installation for operation and maintenance, tapping and control (see Chapter 29 of this Manual).

   c. The official control points must be referenced on the plans.

d. The plans must show the approved permanent water source if existing, or well locations, pump stations and storage tanks or reservoirs to supply sufficient water for the subdivision for domestic and Fire demands.

e. Show the locations of the valves which will be used for chlorination, flushing and hydrostatic testing.

f. The water improvement plans must be signed by, embossed with the of stamp or seal, and have the registration expiration date of the professional civil engineer in responsible charge of the design of the water improvement plans. (See Chapter 61 of this Manual.)

g. The Water Distribution Plan Check List in Chapter 25 of this Manual serves as a guide in meeting the above requirements.

C. Water Distribution System Design Requirements

The design engineer must provide general information on the design of a water distribution system acceptable to the Director. The system must be designed to deliver water to its customers in sufficient quantities to meet anticipated domestic and fire flow demands and meet the requirements of the Title 32 of the County Code (Fire Code) and the State Health Code. The following design criteria also must be met:

1. Water Distribution Main Sizes

The water distribution system shall be designed to obtain the lowest cost to the property being served over the expected life of the system. This cost may not necessarily result in the lowest initial cost when long-term operation and maintenance costs are considered. This must be demonstrated to the satisfaction of the Director.

In designing a water main extension or replacement, all water pipe will be sized large enough to maintain normal operating pressures of not less than thirty-five pounds per square inch (35 psi) residual pressure at the building pad at peak hour demand plus fire fighting services demand as established by the Forester and Fire Warden.

In designing a water main extension or replacement, all water pipe will be sized to be capable of providing a minimum residual water pressure of twenty pounds per square inch (20 psi) at the most critical fire hydrant during peak demand plus fire fighting services demand as established by the Forester and Fire Warden. Generally, water distribution mains are sized for a head loss of five feet per thousand feet (5 ft./1000 ft.) of water main at peak hour flows. The minimum size for a water distribution main is six (6) inches. However, four (4) inch water mains may be used in short cul-de-sacs not requiring fire hydrants or fire services larger than two (2) inches in size. Standard pipe sizes are in even number inches.

The sizing of water distribution mains normally follow a standard grid based upon careful consideration and analysis of the water distribution system studies using network simulation procedures.

In residential areas that are zoned R-1, water mains are usually six inches in diameter, placed in a grid system and four inches in diameter in short cul-de-sacs.
In residential areas that are zoned R-3, water mains are usually comprised of a mixed pattern of six and eight inch diameter pipe placed in a grid system.

In areas zoned for commercial and industrial use, the water mains are usually comprised of a pattern of 8- and 12-inch water mains placed in a grid system.

Looping of water main extensions shall be required whenever possible to maintain water quality and improve reliability of water flows.

D. Water Distribution System Operating Pressures

Whenever possible, water pressures within a water distribution system should be designed to provide a minimum pressure of forty-three pounds per square inch gauge (43 psig) at the building pad during the peak hour demand. At building site elevations where the minimum pressure is less than forty-five pounds per square inch gauge (45 psig), oversized plumbing in accordance with Title 28 of the County Code (Plumbing Code) shall be required (See Chapter 54 of this Manual.) Every effort shall be expended to grade lots within a subdivision to enable the water distribution system to provide a minimum pressure of thirty-five pounds per square inch gauge (35 psig) at the elevation of the highest floor of any structure. Future demand and water main deterioration will result in future consumer problems if water pressure drops below adequate levels (35 psig). No water distribution system will be approved if the water pressure at the pad elevation of a lot within the system has a minimum water pressure at peak demand of less than thirty five pound per square inch gauge (35 psig). Domestic water pressure regulators are required in accordance with this same Title 28 where the maximum static water pressure exceeds eighty pounds per square inch gauge (80 psig) at the building site elevation.

E. Water Pressure Regulating Stations

Pressure regulating stations are required within a water distribution system to control pressures between service zones. Water pressure regulating stations will be located as needed by the design engineer or the water purveyor to the satisfaction of the Director based on existing water pressure zones and the existing water distribution system.

F. Water Storage Facilities

Water storage facilities may be required for storing water within a water distribution system in order to meet the water flow and pressure requirements described in Items C and D on pages 48-3 and 48-4. The type, size, and locations of any water storage facility must be to the satisfaction of the Director. All plans and specifications shall meet the requirements of Item B on page 48-1. In addition, the following is required:

1. Environmental documentation for water tanks must be completed prior to the tentative map approval so that the cumulative impacts of the development can be considered. (See Chapters 9 and 11 of this Manual.)

2. All grading shall conform to the requirements of Title 26 of the County Code. The grading plans must be approved by the Department of Public Works in accordance with Chapters 14 and 30 of this Manual.

3. Specific water tank design criteria will not be approved until Items 1 and 2 have been satisfied. The following special conditions will apply:

   a. All water tank footings shall be founded on bedrock to eliminate the possibility of significant differential settlement.

   b. Water tank walls shall be designed to withstand anticipated seismic movements and loads. (See Chapter 49 of this Manual.)

   c. All design criteria shall be shown on the plans in accordance with Item A on page 48-1 to the satisfaction of the Director.

d. Valves meeting the requirements of Item K on page 48-9 and water flow controls shall be provided and installed to the satisfaction of the Director.

e. Flexible connections shall be required for all connections to the water storage tank to reduce potential failure due to differential movement between the tank and the pipeline.

f. Water elevation recording instruments that are accurate to the nearest 0.1 feet shall be installed to the satisfaction of the Director.

g. A cathodic protection and/or other corrosion prevention measures shall be designed and installed to the satisfaction of the Director.

h. A security system that protects the facility from vandals and personnel from hazards shall be designed and installed to meet CAL-OSHA requirements and to the satisfaction of the Director. The fencing requirements in Chapter 36 can serve as a guide.

i. A roadway of adequate width for equipment to reach all parts of the facility for maintenance is required. Widths less than ten feet (10 ft.) and steeper than twelve percent (12%) are not acceptable.

j. Access to the top of the water tank and to within the water tank shall meet CAL-OSHA requirements as presented in Title 8, Chapter 4, Subchapter 4 of the Code of Regulations. This includes providing adequate ventilation inside the tank.

k. Positive drainage to the satisfaction of the Drainage and Grading Section shall be provided in accordance with Chapters 14 and 30 of this Manual.

l. A cleaning system for the interior of the water tank shall be required to the satisfaction of the Director. This includes providing a water source while the water tank is empty and electrical power outlets to operate cleaning and lighting equipment.

m. The water purveyor must install landscaping in accordance with the requirements of Chapter 14 of this Manual.

n. It is the responsibility of the developer/owner to obtain all required clearances, approvals, and permits described in Part II of this Procedure Manual.

4. Specifications

All design procedures and materials utilized in a storage facility must meet standard specifications as described by but not limited to the following items to the satisfaction of the Director:

a. Design Specifications

All steel tanks, standpipes, reservoirs, and elevated tanks for water storage shall comply with the latest "AWWA Standard D100" or "A.P.I. Standards" provided that they meet all foundation and seismic requirements of Title 26 of the County Code, (Building Code).

b. Repair Specifications

All inspection and repairing of steel tanks, standpipes, reservoirs and elevated tanks, for water storage shall comply with the latest "AWWA Standard D102."

c. Painting and Disinfecting Specifications

All painting, repainting and disinfecting of steel tanks, standpipes, reservoirs and elevated tanks, for water storage shall comply with the latest "AWWA Standard D102."

G. Pumping Facilities

Pumping facilities may be required to provide adequate water pressure within the water distribution system. All plans and specifications shall be done in accordance with Item B on page 48-1. Environmental Documentation and Geotechnical Investigations shall be done in accordance with Items F, 1 and 2, respectively on Page 48-4. In addition, the following items are required:

1. The building shall conform to the requirements of Titles 26, 28, 29, and 32 of the County Code. The building plans must be approved by Building and Safety Division. The procedures described in Chapter 16 may be required depending upon site conditions.

2. All grading shall conform to the requirements of Title 26 of the County Code. The grading plans must be approved by the Drainage and Grading Section in accordance with Chapters 14 and 30 of this Manual.

3. All design criteria shall be shown on the plans in accordance with Item A on page 48-1 to the satisfaction of the Director.

4. Valves meeting the requirements of Item K on Page 48-9 and water flow controls shall be provided and installed to the satisfaction of the Director.

5. Flexible connections between the pumps and the pipe lines shall be required to reduce potential failure due to differential movement caused by soil expansion and compression, and surging, seismic and machinery vibrations.

6. All pumps must receive water by gravity flow.

7. All pump stations must be designed to allow easy access of equipment to maintain and replace the valves, pumps and piping to the satisfaction of the Director.

8. Adequate parking for maintenance work shall be provided at the site.

9. The noise level within the pump station must meet CAL-OSHA minimum standards as presented in Title 8, Chapter 4, Subchapter 7, Article 105 beginning with Section 5095 of the Code of Regulations. The noise level outside the pump station must meet local Zoning Code or Ordinance requirements.

10. A security system that protects the facility from vandals and personnel from hazards shall be designed and installed to meet CAL-OSHA requirements as presented in Title 8, Chapter 4, Subchapter 7 of the Code of Regulations and to the satisfaction of the Director.

11. Provide adequate ventilation to insure that the equipment will operate within their design temperature range.

12. Provide sanitation facilities as needed for maintenance personnel in accordance with the provisions of Title 8, Chapter 4, Subchapter 7, Article 9 beginning with Section 3360 of the Code of Regulations.

13. Provide landscaping in accordance with local Zoning Code or Ordinance requirements.

H. Easements

Easements on property outside of road right-of-way for water distribution purposes shall be obtained in accordance with the requirements of Chapters 12, 23, 29, and 46 of this manual. The water purveyor shall hold title to these easements.

I. Water Distribution Main Layout

All water mains shall be installed in street right-of-way or in an easement described in Item H. All water pipe installation shall be in accordance with Section 306 of the Standard Specifications unless modified below and the road excavation and/or encroachment permit. (See Chapter 25 of this Manual.) When there is a conflict, the conditions stated in the permit shall govern.

1. Easement or Installation Widths

The minimum width of an exclusive easement is ten feet (10 ft.). Non exclusive easements will be accepted only over full-width private streets or driveways which conform to the Department of Public Works' standards for public streets described in Chapter 44 of this Manual.

Easement widths shall be wider for large water mains in accordance with the requirements with Storm Drains in Chapter 36 of this Manual. All shall meet or exceed the latest AWWA Standard C-600.

2. Installation in Road-Right-of-Way

All water mains shall be installed in dedicated public street right-of-ways of such grade, alignment, curvature, and other characteristics as to permit them to be laid and maintained in the normal manner to the satisfaction of the Director. The alignment shall be parallel to property lines. The normal practice by agreement among the affected parties is to install water mains at a minimum distance of six feet (6 ft.) from the south or west curb of the street except in hillside areas where they are to be located on the uphill side of the street. Water mains shall be installed no closer than four feet (4 ft.) from the center line of the street where the sewer is usually located. There shall always be a minimum of two feet (2 ft.) between trench lines of adjacent underground utilities or structures.

3. Pipe Depth

All water mains shall be installed so that the top of the pipe is not less than thirty inches (30 in.) below the flow line of the street gutter for water mains less than twelve inches (12 in.) in diameter, or a minimum cover of thirty six inches (36 in.) for mains larger than twelve inches (12 in.) in diameter, unless a deeper depth is specified in the excavation and/or encroachment permit. All water service connections shall be installed with a minimum twenty four inch (24 in.) cover.

Shallower cover will be allowed if approved by the Director of Public Works in his capacity as Road Commissioner or the State Highway Department, whichever is applicable.

4. Installation Near Sewer Lines

The Health Code establishes a minimum horizontal distance of ten feet between main line sanitary sewers and pressure water mains and where the water main is of the gravity type, the minimum horizontal distance shall be twenty five feet (25 ft.). Where a water main and a sewer line must cross, the water main shall be at an elevation above the sewer by at least three feet of undisturbed natural material or earth compacted at ninety percent (90%) of maximum density as determined by ASTM D1557-78. (See Section 11.38.460 of Title 11, Division 1 of the Los Angeles County Code (Health Code).

This code recognized the fact that certain local conditions of topography, available space, etc., create a condition where the desired separation cannot be achieved. Where this

condition exists, a more rigid construction requirement for sewers and water mains is necessary. When such a situation does exist, engineers engaged in the design of sanitary sewers should contact the Sewer Subunit of the Department of Public Works for such construction requirements approved by the Director.

5. Asbestos-Cement Pipe Identification Wire

Before completing backfilling, an identification wire shall be placed on top of asbestos-cement pipe. The wire shall provide a continuous electrical conductor between gate valve boxes. Each end shall be brought up inside the valve box to the ground surface and looped back with two feet (2 ft.) of wire free or fastened to a vertical metal rod inside the box. The wire may be new or used, solid or stranded, a minimum of eighteen gauge (18 ga.), but shall be an electrically continuous wire between valve boxes. Where a water system has been installed in accordance with plans which show the location of the water mains with respect to some physical or retraceable line (i.e., curbline, street centerline, etc.), the use of an identification wire is optional.

J. Water Pipe Specifications

1. Pipe Pressure

All water pipes and fittings used in distribution water mains shall be designed for a minimum pressure as specified in Section 20.16.040 of Title 20, Division 1 of Los Angeles County Code (Water Code) and pipe designed to withstand one hundred fifty pound per square inch gauge (150 psig) shall be the minimum pressure class used.

2. Pipe Diameter

All diameters shall be full nominal inside diameters; the actual diameters may not be less than the nominal by more than five percent (5%) when measured approximately three inches (3 in.) from the ends of the pipe.

3. Asbestos-Cement Pipe
All asbestos-cement (A.C.) water pipe shall comply with Section 207-7 of the Standard Specifications.
All A.C. pipe and couplings shall bear the "U.L." approved label reading "Underwriters' Laboratories, Inc., Inspected Nonmetallic Pipe for Water Mains."

4. Cast-Iron and Ductile-Iron Pipe

All cast-iron and ductile-iron pipe shall meet the requirements of Section 207-9 of the Standard Specifications.

5. Steel Pipe

All steel water pipe shall meet the requirements of Section 207-10 of the Standard Specifications.

6. Concrete Cylinder Pipe

All concrete cylinder pipe shall meet the requirements of Section 207-4 of the Standard Specifications.

7. Reinforced Concrete Pressure Pipe

All three types of reinforced concrete pressure pipe shall meet the requirements of Section 207-5 of the Standard Specifications.

K. Valve Layout and Specifications

1. Line Valve Locations

Line valves are required at intervals no greater than six hundred feet (600 ft.) in all twelve inch (12 in.) or smaller water mains. Line valves are required at every intersection for each direction of the water main. However, for a succession of short blocks perpendicular to the direction of a major feed line and within a residential service area, valves may be omitted as long as the six hundred foot (600 ft.) interval is maintained. Where blocks exceed six hundred feet (600 ft.) in length or if there are two (2) or more fire hydrants in the same block connected to the same water main, additional line valves may be required by the Director in the middle of the block.

Line valves are generally installed adjacent to the fitting connecting the intersecting water mains. Street intersections carrying heavy traffic, or containing major water distribution mains in both streets may require four (4) valves; one at or near the extended property lines and adjacent to the fire hydrants, if possible.

2. Main Line Gate Valves

All main line gate valves on distribution mains shall be in accordance with the latest "AWWA Standard C500." Gate valves provided with O-ring stuffing boxes are acceptable. Hub end gate valves provided for rubber rings shall be in accordance with this standard, except for the bell which shall be modified for the rubber rings.

3. Gate Valve Protection

The waterway surfaces of all cast-iron and ferrous valves shall be lined with a bituminous seal coat, coal-tar enamel, catalytic-cured materials or asphalt varnish in accordance with the above referenced standard. The protective coatings shall be applied to the cast-iron or ferrous parts of the valve, except finished or bearing surfaces.
The exterior surfaces of all cast-iron and ferrous valves shall be protected in the same manner as cast-iron pipe as described in the Standard Specifications. (See Items J, 4 and 5 on Page 48-8.)

4. Valves Boxes and Vaults

A valve box or vault or capped standpipe of a type and at a grade shall be provided for every valve installed below the street pavement to the satisfaction of the Director. All valve boxes and vaults placed in the street pavement or any location where there is vehicular traffic shall be metallic or of reinforced concrete.

All valve boxes, covers, and caps for gate valves placed in the street where there is no vehicular traffic, shall be of metallic or non-metallic construction, as required by the Director. All valve box caps shall be marked with the word "WATER," or a "W," and a suitable identification of the water utility.

5. Air and Vacuum Release Valves

All air and vacuum release valves shall be installed in the water system at all points where it is indicated that air pockets may form. The design shall be such so as to insure the release of air automatically from the water main. These valves must also insure the entrance of air into the water main when the pressure inside the line is below atmospheric pressure. All valves shall be designed for a minimum of one hundred fifty pounds per square inch gauge (150 psig) operating pressure. The inlet to each valve shall be provided with a gate valve or corporation stop to provide a positive closure between the main and the air and vacuum release valve.

6. Check Valves

All check valves shall seat readily and completely to assure water tightness. The face of the closure element and valve seat shall be bronze, composition, or other non-corrodible material which will seat tightly under all prevailing conditions of field use.

Slow-closing check valves shall be used where excessive pressures or water hammer may occur and the static operating pressure is within twenty percent (20%) of the pressure class or rating of the pipe. All check valves, four-inch (4 in.) and larger in size for use on distribution mains, shall be designed for minimum of one hundred seventy five pounds per square inch gauge (175 psig) cold water working pressure.

7. Flushouts (Blowoffs)

Flushouts (blowoffs) shall be installed at the terminus of all deadened water mains or non-circulating flow water mains where fire hydrants are not required. They shall be designed for a minimum operating pressure of one hundred fifty pounds per square inch gauge (150 psig) and shall be large enough to allow a minimum velocity of three feet per second in the deadened water main when flushed and shall have a diameter of not less than one and one-half inches (1-1/2 in.).

L. Fire Hydrant Locations and Specifications

The location, size type and material of fire hydrants shall be designated by the Forester and Fire Warden in accordance with Section 20.16.010 of the County Code. The Department's general policy for layout of above ground utility locations in parkways is in Chapter 44 of this Manual.

1. Public Fire Hydrant Locations

All public fire hydrants which are to be maintained by the water purveyor shall be located within street right-of-way. They shall be installed at general locations determined by the Forester and Fire Warden and modified by the following field conditions:

a. On the short lateral side of the street.

b. On the uphill side of the street in hillside areas.

c. No closer than four feet (4 ft.) clearance from adjacent structures or above ground utilities.

d. At lot lines.

e. No closer than five feet (5 ft.) from the edge of a driveway or a wheelchair ramp (See Chapter 44 of this Manual).

f. For curbs having a radius of twenty feet (20 ft.) or greater, no closer than five feet (5 ft.) and not greater than ten feet (10 ft.) from the beginning of curve of the curb (B.C.) and not on the curve radius.

g. For curbs having a radius less than twenty feet (20 ft.), no closer than ten feet (10 ft.) and not greater than fifteen feet (15 ft.) from the B.C. of the curb and not on the curve radius.

2. Fire Hydrant Distances from Curbs and Edge of Driveways

In order for a fire hydrant to have adequate protection the centerline of the fire hydrant must be located as follows:

a. At least twenty four (24) inches in back of the curb face, and

b. At least eight (8) feet from the edge of a driveway.

If the above requirements are not met, the requirements in Item 9 on Page 49-12 must be satisfied.

3. Fire Hydrant Riser Heights

All riser type fire hydrants shall be so installed so the centerline of the lowest outlet is a minimum of eighteen (18) inches and a maximum of twenty four (24) inches above the top of the curb or ground surface whichever is higher.

There must be at least eighteen (18) inches of space in front of each outlet to allow connection of the hoses.

A single outlet hydrant shall be installed with the outlets facing the curb and at the right angles to the curb line. Double outlet hydrants shall be installed with the outlets facing the curb and at 45 degrees to the curb line.

4. Private Fire Hydrant Locations

All privately maintained fire hydrants are required to meet County Code requirements. These fire hydrants are located on private property adjacent to alleys, fire lanes, private streets, driveways, etc. and are serviced and owned by the property owner or homeowners association.

These fire hydrants must be fed by a privately metered water system.

5. Fire Hydrant Painting

The exterior surface of all fire hydrant riser barrels, heads and barricades which extend above ground shall be painted with a minimum of two coats of red lead (or equal) and a finish waterproof coat, the color of which shall be designated by the Forester and Fire Warden or local fire authority.

6. Fire Hydrant Type

All fire hydrants of the dry or wet type shall conform to latest "AWWA Standard C503" and shall be designed for a minimum working pressure of one hundred fifty pounds per square inch gauge (150 psig).

7. Fire Hydrant Barrel and Bury

a. Cast-Iron Fire Hydrants, 2-1/2- and 4-inch Outlets

The fire hydrant barrel and bury shall be cast-iron. Each wet type hydrant shall have individual valves for each outlet. All 2-1/2-inch and 4-inch outlets shall have National Standard hose threads.

These valves shall be removable by unbolting or unscrewing. A 6-inch cast-iron bury shall be used, if specified.

b. Steel Fire Hydrant

The fire hydrant barrel and standard bury shall be standard steel pipe of minimum wall thickness equivalent to Schedule 40 for 150 psi water working pressure. The steel pipe below ground shall be protected in accordance with Sections 207-10.4 of the

Standard Specifications, or shall be galvanized. The exterior surface of the steel pipe above ground shall be painted in accordance with Item 3 on the previous page. The interior surface of the steel pipe above ground shall be protected in accordance with Section 207-10.4 of the Standard Specifications, or shall be galvanized.

Bronze hydrant heads shall be used with the steel standpipe. All heads shall be removable by unbolting or unscrewing.

8. Fire Hydrant Heads - Bronze

   a. Fire Hydrant Head - 2-1/2" Outlet

      All fire hydrant heads with 2-1/2-inch outlets have a 4-inch or 6-inch Iron Pipe Standard (I.P.S.) screwed inlet. They shall be all bronze of the angle fire plug valve or wharf hydrant type, with screw or union bonnet, with rubber or composition disc. There shall be one 2-1/2-inch National Standard fire hose thread valved outlet, complete with bronze or plastic cap and chain. This head shall be screwed directly on a 4-inch or a 6-inch riser by use of a threaded reducer.

   b. Fire Hydrant Heads - 2-1/2 Inch x 4-Inch Outlets or 2 - 2-1/2 Inch Outlets All fire hydrant heads with 2-1/2 inch x 4 inch outlets or 2 - 2-1/2 inch outlets shall be all-bronze and shall have a 6-inch iron pipe standard (I.P.S.) screwed or flagged inlet. The hydrant outlets shall have individual valves for the control of each outlet, the size and number of outlets to be as shown on the plans. All outlets shall have bronze or plastic caps with chains attached. All 2-1/2-inch and 4-inch outlets shall have National Standard fire hose threads.

9. Fire Hydrant Barricades

   Barricades shall be installed where Item 2 on Page 48-11 is not satisfied. As noted in that item, barricades are not necessary if the fire hydrant is behind a curb and more than eight (8) feet away from the edge of a driveway. All fire hydrant barricades within the County right-of-way or a County road shall be in accordance with Standard Plan W-14 on Page 48-25. These barricades shall not obstruct the outlets and shall be arranged so as to provide necessary protection.

M. Pipe Fittings

1. Certificate

   The supplier shall furnish a certificate if requested by the Director, stating that all pipe, valves, fittings, and protective coatings comply with the specifications in this Manual.

2. Ductile-Iron Bell and Spigot Fittings

   All ductile-iron bell and spigot fittings shall conform with either the latest "AWWA Standard C110" or ASA Standard A21.10 (short body, 3-inch to 12-inch, 250 psig working pressure) or of the long radius type in Class D with 173 psig water working pressure.

   Class D or Class 150 is the minimum class acceptable. All ductile-iron fittings installed below ground shall be lined and coated in accordance with the Standard Specifications (See Item J, 4, on Page 48-9).

3. Ductile-Iron Flagged Fittings

   All ductile-iron pipe flanges and flagged fittings shall conform to the latest "ASA Standard B16.1." All cast-iron screwed fittings shall comply with the latest "ASA Standard B16.4."

All ductile-iron fittings installed below ground shall be lined and coated in accordance with the Standard Specifications (See Item J, 4, on Page 48-8).

4. Ductile-Iron Rubber Ring Fittings

All short-body, ductile-iron fittings, 3-inch to 12-inch with bells to accommodate rubber rings for use with asbestos-cement pipe shall conform with the latest "AWWA Standard C110 or ASA Standard A21.10" except that the bells shall be modified for use with rubber ring type joints. All other ductile-iron pressure fittings with bells to accommodate rubber rings shall conform with the above latest Standards, except that the bells shall be modified for use with rubber ring type joints. The rubber ring used shall be designed for the particular type groove in the fitting, and for fittings used with A.C. pipe, shall match the rubber rings of the couplings used at the joints of the pipe. All ductile-iron rubber ring fittings shall be provided with a reaction or thrust backing or a metal harness in accordance with Item Q, on Page 48-18.

The rubber ring recess shall be free of all coating runs and sand pits.

All ductile-iron rubber ring fittings shall be lined and coated to conform with the Standard Specifications (See Item J, 4, on Page 48-8).

5. Steel Pipe Fittings

All steel water pipe fittings shall have a minimum wall thickness not less than the steel pipe specified. The dimensions of the fittings shall conform to the latest "AWWA Standard C208." All steel water pipe fittings installed below ground shall be protected in the same manner as the pipe to which they are attached.

All steel water pipe fittings installed above ground shall be protected as follows:

a. Interior Surfaces:

In accordance with Section 207-10.4 of the Standard Specifications (See Item J, 5, on Page 48-8), galvanized, or an approved coating for use with potable water.

b. Exterior Surfaces:

Galvanized or painted with two coats of red lead (or equal) and a finish waterproof coat.

6. Pipe Flanges, Adaptors and Couplings

a. All steel welding flanges shall conform to the latest "AWWA Standard C207." Class D is the minimum class acceptable.

b. All steel flexible couplings shall be designed for not less than the design pressure for the water main.

c. All flexible transition couplings shall be designed for not less than the design pressure for the water main.

d. All flexible reducing couplings shall be designed for not less than the design pressure for the water main.

e. All cast iron adaptors shall conform in design to Items 2, 3 and 4, on Pages 48-12 and 48-13 and protective coatings applied in accordance with Section 207-9.24 of the Standard Specifications (See Item J, 4, on Page 48-8).

f. All cast iron or steel coupling adaptors shall be designed for not less than the design pressure for the water main.

g. All flexible transition adaptors shall be designed for not less than the design pressure for the water main.

7. Joints

All joints shall conform to applicable AWWA specifications. Acceptable joint types for straight lengths of ductile iron and steel pipe are push-on and slip joint welding, respectively. Mechanical joints for straight lengths of pipe will be allowed when justified to the satisfaction of the Director.

Lead joints may be necessary when installing fire hydrant bury ells and other special fittings. Flange joints may be required when installing four-inch (4 in.) or larger line valves in steel pipes, four-inch (4 in.) or larger tapping sleeves and other fittings. All other types of joints must be justified to the satisfaction of the Director.

8. Closure Fittings

Mechanical couplings shall be of a gasketed, sleeve-type, with a diameter to properly fit the pipe. Tolerance on the pipe and coupling, together with proper bolt and gasket arrangements, shall be justified to the satisfaction of the Director to be sufficient to ensure permanent watertight joints under all conditions.

Where pipes of different outside diameter are connected together, or where pipe is connected to fittings of different materials, great care shall be taken to ensure that proper rings or adapters are selected.

9. Repair Fittings

Repair clamps, repair sleeves, joint clamps and similar devices shall not be used to repair or join water mains. Pipe damaged during installation shall be removed and replaced.

N. Concrete, Cement Grout and Mortar

All Portland cement concrete, grout and mortar shall conform to the requirements of Section 201 of the Standard Specifications.

O. Water Service Connections

All 3/4-inch and 1-inch water service connections may be seamless copper water tubing, soft annealed. Use of nonmetallic materials or galvanized iron pipe may be approved by the Engineer represented by the Water Code Subunit for 3/4-inch and 1-inch water service connection if experience or reliable tests indicate a life expectancy of at least 20 years of such materials in the particular soil, water characteristics, and operating conditions to be used herein.

All 1-1/2-inch and larger water service connections may be galvanized-iron, cast-iron, asbestos-cement, red brass pipe, copper pipe, or seamless copper water tubing, either "hard" or "soft" annealed, and shall be delivered in approximately 20-straight lengths. No coiled copper tubing shall be used for 1-1/2-inch and 2-inch size service pipe. All copper water tubing shall comply with the latest "ASTM B88, Type K" or "ASA H23-1" or "WW-T-799A."

All threads for underground service line fittings and materials for copper tubing fittings (See details in Item 14 on Page 48-17), and corporation and meter stops (See details in Items 8 and 9, on Pages 48-15 and 48-16), shall comply with the latest "AWWA Standard C800."

1. Service Pipe Size

The size of the water service connection shall be not less than 3/4-inch nominal size. Actual size shall be determined by total water flow requirements in order to minimize the pressure drop and provide the quality of service required by the customers in any unit water system. In no case shall the diameter of the water service connection be less than that required by Title 28 of the County Code (Plumbing Code). All water service connections shall be equipped with a corporation stop or valve directly connected to the water main. All water service connections shall be equipped with an angle meter stop or curb stop directly connected to the inlet of the water meter or installed at the property line if unmatured. Where property will be served by two or more water service connections from different street water mains, but from one source of supply, each service connection shall be equipped with a single check valve to prevent inter-street flow. It is not to be construed that the single check valve installation will serve as a back-flow prevention device. For all premises requiring a back-flow prevention device, a device as approved by the State or County Health Agencies shall be installed on each service connection and tested annually or more often as required.

2. Galvanized Iron Pipe

Galvanized-iron pipe shall comply where applicable to steel pipe in Item 4 below.

3. Copper Pipe

All copper pipe shall be seamless copper conforming to the latest "ASTM Standard B42."

4. Steel Pipe

Steel pipe may be used for 3/4-inch and larger water service connections and shall comply with the latest "AWWA Standard C200" where applicable and shall be Schedule 40, standard wall thickness. All threads for underground service line fittings shall comply with the latest "AWWA Standard C800." All steel pipe laid underground shall be thoroughly cleaned and protective coatings applied, as described in the Standard Specifications (See Item J, 5 on Page 48-8), or shall be galvanized, unless physical and operating conditions are encountered requiring additional protective treatment.

5. Brass Pipe

All brass pipe for use in water service connections shall be seamless red brass conforming to the latest "ASTM Standard B43."

6. Cast-Iron Pipe

All cast-iron pipe for use in water service connections shall comply with the Standard Specifications (See Item J, 4 on Page 48-8).

7. Asbestos-Cement Pipe

All asbestos-cement water pipe for use in water service connections shall comply with the Standard Specification (See Item J, 3 on Page 48-8).

8. Corporation Stops

All corporation stops shall be bronze, round, with inlet for either corporation stop (C.S.) thread for asbestos-cement or cast-iron pipe, or iron pipe standard (I.P.S.) thread for steel pipe, and outlet for copper or steel water service pipe.

9. Meter Stops

All 3/4-inch and 1-inch (curb) meter stops shall be bronze, with inlet for copper or steel water service pipe, and outlet for meter coupling.
For 1-1/2-inch and 2-inch service, bronze curb stop valve, straight ground key curb stop, or bronze gate valve (minimum of two hundred pounds per square inch gauge (200 psig) rated working pressure) may be used. Inlets and outlets shall be copper service pipe thread, or I.P.S. thread, or flagged for flagged meter connections. All valves shall be hydro-tested to three hundred pounds per square inch gauge (300 psig) or air-tested to one hundred pounds per square inch gauge (100 psig) under water.

10. Gate Valves

All 1-1/2-inch and 2-inch gate valves shall comply with the latest "AWWA Standard C500."

11. Standard Service Clamps

All service clamps and straps shall be bronze when installed in severe corrosive soils, or shall be ductile-iron when installed in non-corrosive soils, or malleable iron, complete with round or flattened strap or straps and mounded rubber or lead gaskets. Flattened straps with rubber gaskets shall be used on asbestos-cement pipe.

For the purpose of this item, corrosive soil is soil that has a resistivity of less than 2,500 ohms per cubic centimeter or other factors that would reduce the life of the fittings.

Single strap and double strap service clamps are acceptable when used as shown in the following table.

Couplings or half-couplings may be welded to steel pipe having a wall thickness equal to or heavier than No. 14 gauge, and thereby eliminating the use of a service clamp if required in the following table. The welding shall be done prior to coating or after coating if the coating affected by the welding is properly replaced. If the steel pipe has a wall thickness great enough for threading, the use of clamps as shown in the following table will not be required.

Where no clamps are required in the following table, the minimum spacing between service taps shall be two feet (2 ft.):

STANDARD SERVICE CLAMPS					
Class 150 Water main (Nominal Size)	Material (Types)	Corporation 1/4-inch	Stop 1-inch	(See Notes) (Nominal) 1-1/4&1-1/2-inch	Sizes 2-inch
4-inch	A.C.	no-clamp	sgl. strap	A.C. Coup.	B.S.
4-inch	C.I.	no-clamp	no-clamp	dbl. strap	dbl. strap
4-inch	Steel	sgl. strap	sgl. strap	sgl. strap	dbl. strap
6-inch	A.C.	no-clamp	sgl. strap	dbl. strap	B.S.
6-inch	C.I.	no-clamp	no-clamp	sgl. strap	dbl. strap
6-inch	Steel	sgl. strap	sgl. strap	sgl. strap	dbl. strap
8-inch	A.C.	no-clamp	no-clamp	sgl. strap	sgl. strap

8-inch	C.I.	no-clamp	no-clamp	no-clamp	sgl. strap
8-inch	Steel	sgl. strap	sgl. strap	sgl. strap	sgl. strap
10-inch	A.C.	no-clamp	no-clamp	sgl. strap	sgl. strap
10-inch	C.I.	no-clamp	no-clamp	no-clamp	sgl. strap
10-inch	Steel	no-clamp	sgl. strap	sgl.-strap	sgl. strap
12-inch	A.C.	no-clamp	no-clamp	sgl. strap	sgl. strap
12-inch	C.I.	no-clamp	no-clamp	no-clamp	no-clamp
12-inch	Steel	no-clamp	no-clamp	sgl. strap	sgl. strap

Notes:

Sgl. = single dbl. = double
B.S. = Cast-iron solid or split bossed sleeve or cast-iron tapping tee
A.C. Coup. = Asbestos-cement heavy tapped coupling

12. Alternate Taps

a. Asbestos-Cement Pipe

For all water services up through two inches nominal diameter, inclusive, an asbestos-cement tapped coupling with a female metal insert may be used in place of straps or where direct taps are permitted as shown in the table in Item 11 beginning on Pages 48-16 and 48-17.

b. Steel Pipe Cement-Lined

A brass sleeve with hard rubber bushing positively flared on the inside diameter (I.D.) of the pipe or lining and expanded against the tapped wall complete with pushing compression device and outlet threaded to receive service connection, such as a Snap-Tap Outlet or approved equal.

13. Repair Service Clamp

If a main is tapped directly and no service clamp is required in accordance with the preceding table on Pages 48-16 and 48-17, and the corporation stop does not seal properly, a repair service clamp shall be used.

14. Copper Tubing Fittings

All copper tubing fittings shall comply with one of the following types:

Brass fittings for flared copper tubes, which shall comply with the latest "ASA Standard B16.26"; or bronze or brass, fittings with compression-type joints; or bronze or brass fittings with solder-type joints. All solder shall be "silver" or "hard" type, not "50-50" or "soft" type.

All compression-type fittings used on copper tubing shall have all-bronze or brass parts.

P. Water Meters and Meter Boxes

All cold-water meters of the displacement type shall conform to the latest "AWWA Standard C700" except that all casing bolts and nuts shall be of brass or bronze or non-corrosive steel. All water meters of the current type shall conform to the latest "AWWA Standard C701." All cold-water meters of the compound type shall conform to the latest "AWWA Standard C702." All cold-water meters of the fire service types shall conform to the latest "AWWA Standard C703."

All cold-water meters of the current type propeller-driven shall conform to the latest "AWWA Standard C704." All cold-water meters up to and including one-inch size to be installed in locales where the temperature falls below freezing may be provided with cast-iron frost bottoms. The cast-iron frost bottoms shall be protected by a non-corrosive treatment.

All meter boxes shall be constructed of concrete or cast-iron and equipped with a concrete, steel or cast-iron cover. All concrete used for meter boxes for one and one-half inch (1-1/2 in.) size and larger meters shall be reinforced.

Q. Thrust Devices

1. Reaction or thrust Backing

A reaction or thrust backing shall be installed at all rubber-ring valves and at all rubber-ring fittings, at all caulked elbows and bends of more than five (5) degrees in the horizontal plane, under a maximum static pressure of two hundred pounds per square inch gauge (200 psig). On slopes or at higher static pressure, thrust devices shall be installed in accordance with design data and plans approved by the Director.

A reaction or thrust device shall be provided on all dead ends except welded steel pipe; caulked tees and crosses having one or more openings plugged. The size and shape of the thrust device shall be designed to prevent movement of the water mains when subjected to the maximum hydrostatic test pressure. Thrust devices shall be cast-in-place concrete, metal harness, or other suitable devices. If the thrust exceeds the bearing value of the surrounding soil, the soil shall be pre-compacted to meet or exceed required bearing resistance before placing concrete. To insure against lateral movement of the water main and/or valve or fitting where a change in direction of the water main is made by the use of such fitting, a metal harness of the rods and pipe clamps may be used, except for pipe having rubber-ring type joints. Steel tie rods and pipe clamps shall be galvanized or otherwise rust-proofed or painted.

Where the distance between two cast-iron fittings, or between a fitting and a gate valve with caulked, flagged, or rubber-ring bells, are at the end of an asbestos-cement (A.C.) pipe more than three and one quarter feet (3-1/4 ft.) long for six-inch (6 in.) and small A.C. pipe, or more than six and one-half feet (6-1/2 ft.) for eight-inch (8 in.) and larger A.C. pipe, not less than one pipe coupling shall be installed between the two units to provide flexibility.

2. Thrust Blocks

Thrust blocks may be utilized provided the design engineer can demonstrate to the satisfaction of the Director that the undisturbed soil or rock can withstand laterally the force of the thrust block. The thrust block shall be designed in accordance with Standard Drawing W-21 or equal. (See Page 48-26.) A detail of the thrust block must be shown on the plans.

R. Criteria for Water Systems Utilizing Water Wells

1. General

All water systems utilizing water wells as the main water source shall consist of a minimum of two water wells, one basic well and another standby and a storage tank and pump station with emergency standby power supply, water mains, and appurtenances. These facilities shall have the capacity to meet the domestic and fire protection demands of the residents and/or users in accordance with Division 1, Title 20, of Los Angeles County Code, (Water Code).

2. Water Well Standard

The construction of all water wells shall comply with the guidelines contained in the State of California, Department of Water Resources, Water Well Standards Bulletin 74-81. (See Chapter 50 of this manual regarding obtaining a copy of this bulletin.)

3. Well Yield

The minimum yield of a water well shall be based on the average daily requirements of the inhabitants of the area. The minimum yield of the water well shall not be less than that calculated by the following formula:

$M.Y. = D \times P \times 2Q_d \times 0.0028$

Where:

M.Y. = Minimum Yield in gallons per minute

D = Number of Dwellings or Lots

P = Person per Dwelling or Lot*
(Use 3.5 persons per dwelling for residential uses)

Q_d = Average Daily Consumption per Capita*

(The average daily consumption shall be based on the historical requirements of the inhabitants of the area. In the event such records are not available, use a consumption per capita of 100 gallons/day.)

*Consult with the Water Code Enforcement Submit regarding establishing factors for other uses that are satisfactory to the Director.

(Note: This formula will require a minimum yield of approximately two (2) gallons per minute per dwelling, based on a consumption per capita of 100 gallons/day. The formula includes a safety factor to provide for fire protection, seasonal fluctuations, peak uses, and pump cycling.)

4. Test Data - Proposed and Existing Wells

Prior to the approval of the water well by the Director, the well driller shall submit well test data and certify in writing that the minimum yield was pumped for a minimum of four (4) hours or until a stable pumping level has been achieved for wells located in water bearing areas or twenty-four (24) hours in "hard-rock" or non-water bearing rock areas as is evidenced by the log of borings and/or is otherwise known to the Department of Public Works (See samples of data to be submitted on Pages 48-27 through 48-33). A water level measurement of the pumped well shall be made every one-half (1/2) minute during the first five (5) minutes after starting the pump; then every five (5) minutes for one hour; then every twenty (20) minutes for two (2) hours. Thereafter the measurements shall be

taken at hourly intervals. This well test data is to be shown on Form WY-1 (See Page 48-31). Immediately after the conclusion of the pumping test, the well driller shall observe the ability of the well to recover to its original water level. The water level recovery measurements shall be made after the pumping is stopped at the same time intervals as that for the pumping test. This recovery test data is to be shown on Form TR-1 (See Page 48-32).

Large capacity wells designed for a minimum yield of fifty (50) gallons per minute or more shall be capable of pumping one hundred and twenty five percent (125%) of the desired yield of the well.

If the distance between a proposed well and any adjacent existing or proposed well(s) is less than one and one-half (1-1/2) times the proposed well depth, the pumping shall be continued until it can be determined if the adjacent well(s) when pumping will not adversely affect the performance of the proposed well and/or the pumping of the proposed well will not adversely affect the performance of any adjacent existing or proposed well(s). This information is also to be shown on Form AW-1 (See Page 48-33).

The well driller shall request permission from the adjoining landowner(s) to monitor their existing well(s) within a distance of 1-1/2 times the proposed well depth. He shall note the draw down, time, time-recovery and other information shown on Form AW-1. In the event permission to monitor the well(s) is denied, the well driller shall request in writing that the Director send a letter of request to the adjacent landowner. In the event the adjoining landowner(s) deny(s) or do(es) not respond to the Director's request for permission for the well driller to monitor their well(s), monitoring requirements for the adjacent well(s) will be waived.

An attempt shall be made by the well driller to save the water from the pump test for later use. This can be done by pumping into a storage tank or pond. The storage pond must be located a minimum distance of one hundred feet (100 ft.) away from the well being tested.

5. Water Tank Standards for Water Well Systems

The storage tank shall be sized with capacity to accommodate the fire flow requirements and two (2) days for metered service or four (4) days for unmetered domestic consumption for the area and uses to be served. (See Section 20.16.030, 20.16.060 and 20.16.160 of Title 20.) The tank design and construction shall conform to Item F, beginning on Page 48-4, as required by Section 20.16.200 of Division 1, Title 20, of the Los Angeles County Code (Water Code).

6. Required Data

The following data shall be submitted to the Department of Public Works:

a. A copy of the approved "Application for Well Permit" issued by either the State or the Los Angeles County Department of Health Services in accordance with the procedures in Chapter 25 of this Manual. Sample No. 1 on Page 48-27 is a copy of the County permit.

b. A copy of the Well Drillers Report as required by Section 13752 of the California Water Code, completely filled in using the "Guide to Preparation of the Well Drillers Report", issued by the Department of Water Resources, State of California. (See Sample No. 2 on Page 48-28).

c. A copy of a chemical analysis of the well water, issued by a certified laboratory. (See Sample No. 3 on Page 48-29)).

d. A copy of a bacteriological examination of water, issued by a certified laboratory. (See Sample No. 4 on Page 48-30).

e. Well Yield Test Data (Form WY-1). (See Sample No. 5 on Page 48-31).

f. Time Recovery Test Data (Form TR-1). (See Sample No. 6 on Page 48-32).

g. Adjacent Well Data (Form AW-1) if applicable. (See Sample No. 7 on Page 48-33).

h. Topographic map, showing location of the proposed well/wells and any adjacent wells with 1-1/2 times the proposed well depth.

Upon review of all the required data, the Director will determine if the proposed well is adequate for the use of the site(s) to be served by the well.

7. Deep-Well Vertical Turbine Pumps

All deep-well vertical turbine pumps shall comply with the latest "AWWA Standard E101."

8. Electric Motors and Emergency Power Supply

All electric motors shall comply with "American Standard for Rotating Electrical Machinery, ASA C50, complete series. Emergency power generators with sufficient capacity to operate all pumps must be installed and always be in working order.

9. Water Well Protection

The top of the water well must be sealed against possible contamination from surface water. Standard Plan W-20 on page 48-34 and W-47 on Page 48-35 should provide adequate protection.

S. New Material

The provisions of this manual are not intended to prevent the use of any material or method of construction not specifically prescribed by this manual if such alternate has been submitted to and has been approved by the Design Engineer. The Director may approve such alternate if it is found to be for the purpose intended and at least the equivalent of that prescribed in this manual in quality, strength, sanitation, durability, safety and effectiveness.

The Director may require the person seeking approval of such alternate to submit to him a sample of such alternate material, together with four copies of a technical report, including design data, report of material and chemical analysis, and details of laboratory tests which have been performed, plus copies of all tests and approvals, if any, under "AWWA," "ASTM," "ASA," or other approved testing laboratories.

T. Water System Acceptance

Before a water system can supply water to the public it must be shown that the delivered water will meet public health and safety standards through the following testing programs:

1. Water Testing

The new section of a water distribution system shall be tested in accordance with Section 306-1.4.5 of the Standard Specifications. The main line shall be tested to a minimum hydrostatic pressure of fifty pounds per square inch gauge (50 psig) greater than the design pressure or pipe class. Class 150 pipe shall be tested to a minimum of two hundred pounds per square inch gauge (200 psig). The duration of the test shall be one (1) hour. All water mains with cement joints shall not be tested until thirty six (36) hours after joint

has been made. All asbestos-cement pipe shall be filled with water for at least twenty four (24) hours before testing. Before applying the hydrostatic pressure, all entrapped air shall be thoroughly bled off. For all types of water mains there shall be no visible leakage at any joint or section of pipe and the allowable leakage for the total lengths of all water mains under test shall not exceed that amount specified in the latest "AWWA Standard C500." All tests shall be made only in the presence of an authorized representative of the Director or a Utility that can witness a test to the satisfaction of the Director. No joint, valve, or fitting shall be completely covered until it has been inspected, tested and approved by the Director or the Water Utility.

When it is necessary to cover the ditch as soon as the water main is laid, the authorized representative of the Director or the Water Utility may permit the backfilling to be completed prior to testing and disinfecting. If the pipe then tested exceeds the allowable leakage, the pipe must be uncovered, repaired and tested until it meets the minimum allowable leakage requirements in the County Code.

2. Water Main Disinfecting

All new or repaired water mains, before being placed in service, shall be completely disinfected in accordance with the latest "Procedures for Disinfecting Water Mains, AWWA Standard C601" and in addition, "Every new water main and every repaired section of an existing water main must be cleared of coliform bacteria by the proper application of chlorine in sufficient quantities to give a minimum of fifty (50) parts per million of available chlorine. The new or repaired pipe shall be thoroughly flushed before and after chlorination. If the first application of chlorine is not sufficient, the procedure shall be repeated until the water will meet the bacteriological drinking water standards as set forth in the United States Public Health Service Drinking Water Standards." Any other disinfecting procedure, if approved by the responsible Health Officer, may be used.

The County Health Officer, in accordance with Title 11, Division 1, of the Los Angeles County Code, (Health Code), shall take necessary action, to protect public health, to insure a safe and sanitary potable water supply.

All open ends of all water mains being installed shall be properly covered at the end of each day's work to prevent the entry of foreign matter, animals, debris, or children. (See Standard Drawing S-2 in Chapter 36.)

3. Flow Tests

Tests shall be made by flowing fire hydrants of all new water distribution systems constructed in accordance with water plans approved by the Director as required by Section 20.16.060 of Title 20, Division 1, of the County Code.

The tests shall be made under the direction of the Forester and Fire Warden in conjunction with the Director. A representative of the Water Utility supplying the water to the development should be present at the time of such test.

U. Tests Requirements

All tests shall be conducted in full accordance with all the requirements of the applicable specifications.

All tests to determine compliance with any of these specifications shall be made within the continental United States.

If requested by the Director, certificates of testing by the manufacturer shall be furnished to the Department of Public Works and/or the tests shall be conducted and certified by an established

reputable material testing firm and a copy of the certificate forwarded to the Department of Public Works.

Any materials delivered to the job site and suspected of damage due to shipping or handling, if requested by the Director or the Water Utility, shall be retested, and the test results must be certified by the manufacturer or an approved materials testing firm as required by the Director or the Water Utility.

V. Reclaimed Materials

Any material that has been used or reclaimed may be reused only after it has been properly reconditioned so as to comply with the original specifications as manufactured and retested satisfactorily in accordance with the requirements of said specifications.

W. References

These standards of materials and construction for installation of water mains and water systems in the County of Los Angeles include by reference in accordance with Item A, 3, on Page 48-1 and the reference documents of the Standard Specifications.

The following definitions and abbreviations are added to the Standard Specifications:

1. Add the following to Section 1-2 Definitions

Design Engineer - A professional engineer registered by the State of California employed by the owner to design, prepare plans, and conduct related engineering activity to complete an engineering project as defined in Chapter 7 Division 3 of the California Business and Professions Code and further defined in Article 1, Chapter 5, Title 16 of the California Code of Regulations.

Water Distribution Main - A pipe, twelve-inch (12 in.) or smaller in inside diameter placed in street right-of-way granted easements used to provide potable water to individual consumers and for fire fighting purposes.

Water Distribution Systems - Water mains, together with all appurtenant and necessary pump stations and emergency power supply, storage facilities, valves, fire hydrants, water meters, recording instruments, and other associated materials needed to carry potable water and to distribute it to individual consumers and to provide fire protection.

Tap - A physical connection to a water main to provide water service to an individual consumer.

2. Add the following to Section 1-3.2 Common Usage

Abbreviations	Word or Words
CS	Corporate Stop
DIP	Ductile Iron Pipe
GV	Gate Valve
IPS	Iron Pipe Standard
MJ	Mechanical Joint
NEC	National Electrical Code

3. Add the following to Section 1-3.3 Institutions

Abbreviations	Word or Words
CAL-OSHA	California Occupational Safety and Health Administration of the Department of Industrial Safety
ISA	Instrument Society of America
OSHA	Federal Occupational Safety and Health Administration
SAE	Society of Automotive Engineers

II. Water Utility Registration

In order for a water utility to be registered by the County under the requirements of Division 1, Title 20, of the County Code (Water Code), the following must be met:

A. Water Utility Qualifications

The Water Utility must meet the following qualification before submitting a Certification of Registration:

1. Have a valid permit from the State or County Department of Health Services to operate a water system.

2. Certify that the persons in responsible charge of the Water Utility are familiar with the terms of Division 1, Title 20, and with Section 10.301 of Title 32, both of the County Code. The former being known as the Water Code and the latter known as the Fire Code.

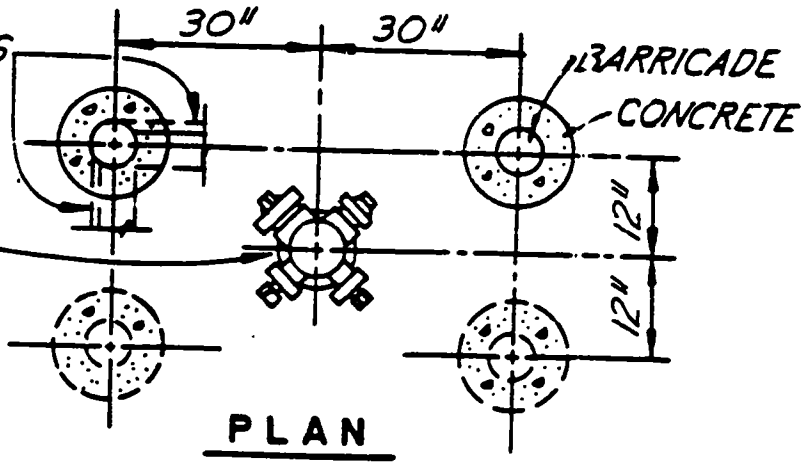
3. Have a professional engineer engaged to perform engineering services pursuant to Chapter 7 (Professional Engineers Act) of the State Business and Professions Code. This engineer must be familiar with the operation of the utility in accordance with Title 16, Division 5, Article 1, Section 415 of the Code of Regulations and have access to all documents regarding the physical operation of the utility, such as, as-built construction plans, well logs, water demand, etc.

B. Certificate of Registration

The Water Utility must after meeting the qualifications in Item A, complete a Water Utility Certificate of Registration (See the Form in Chapter 25) in which the applicant certifies that the above conditions have been met. This Certificate of Registration is Valid for a 5 year period, or 30 days after any change in the persons in responsible charge of the utility.

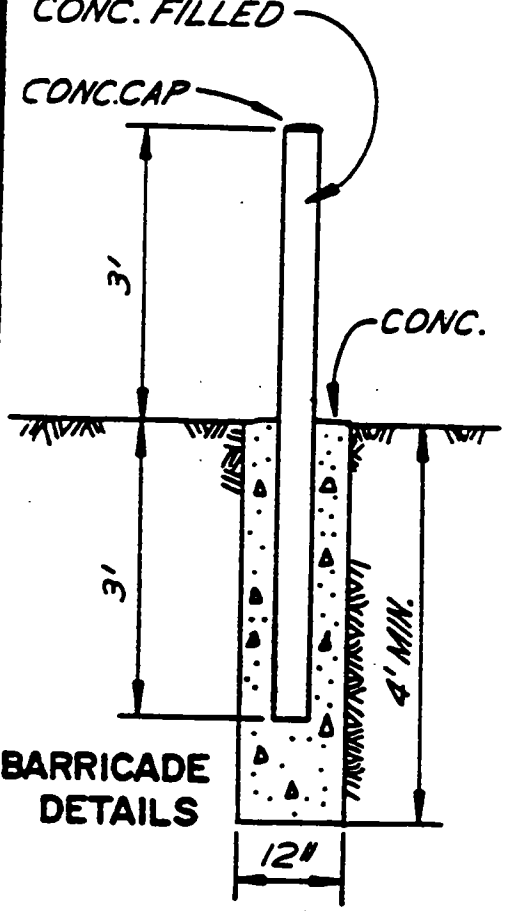
BARRICADES

3 INCH I OR WF BEAM SINGLE BEAM HORIZONTAL BRACES MAY BE REQUIRED BRACES TO BE SET ABOVE HYDRANT OUTLETS



PLAN

FIRE HYDRANT BARRICADES (TYPICAL)



BARRICADE DETAILS

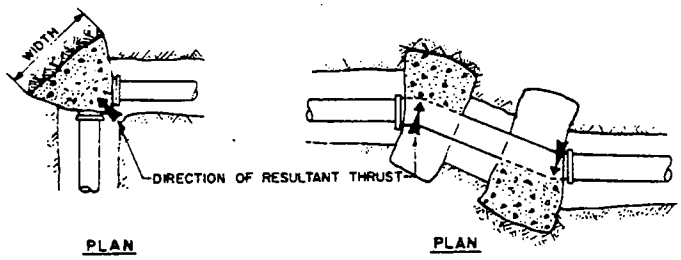
NOTES:

1. FOR METER BOX MARKERS THE MARKING SHALL BE "METER" AND THE HOUSE NO. ON THE BARRICADE IN SAME MANNER AS FOR VALVE MARKERS.
2. FOR VALVE MARKERS THE LETTERS "VALVE" & DISTANCE TO VALVE IN FEET SHALL BE WELDED OR BRAZED VERTICALLY ON BARRICADE IN 2 INCH HIGH LETTERS BEFORE PAINTING. LETTERS TO BE ON SIDE OF BARRICADE FACING VALVE.
3. SEE PLANS FOR NUMBER OF BARRICADES TO BE USED AND IF BRACES REQUIRED.
4. THE EXACT LOCATION OF BARRICADES MAY BE CHANGED BY THE AGENCY IN THE FIELD.
5. THE STEEL PIPE ABOVE GROUND SHALL BE PAINTED A MIN. OF 2 FIELD COATS OF RED PRIMER RUST-OLEUM # 769
6. ONE FINISH COAT OF RUST-OLEUM # 944 YELLOW SHALL BE USED FOR FIRE HYD. BARRICADES.
7. BARRICADES FOR FLUSHOUTS, AIR RELEASE VALVES, VAULT VENTS, MARKERS FOR VALVES & METER BOXES SHALL BE GIVEN ONE FINISH COAT OF "FOREST GREEN" RUST-OLEUM # 1282.

LOS ANGELES COUNTY WATERWORKS DISTRICTS	STANDARD DRAWING	W-14
PREPARED BY: WATERWORKS AND SEWER MAINTENANCE DEPARTMENT OF PUBLIC WORKS	APPROVED BY: Robert L. Lasson ASSISTANT DEPUTY DIRECTOR	DATE: SEPT., 1988

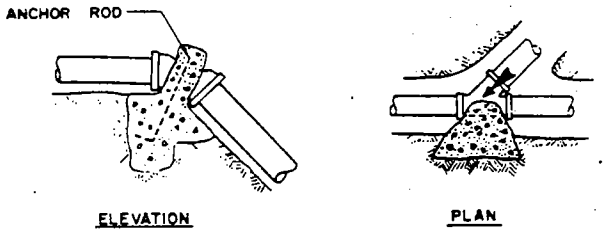
WW

CONCRETE THRUST BLOCKS



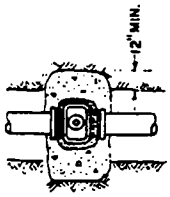
PLAN PLAN

BENDS

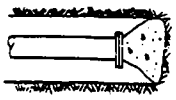


ELEVATION PLAN

VERTICAL BEND (SEE NOTE 5) WYE

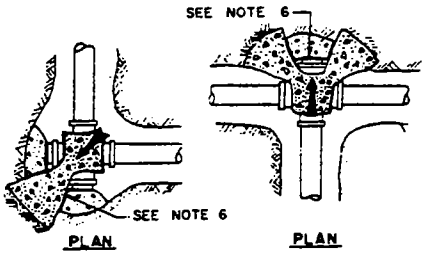


PLAN



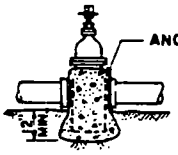
PLAN

BLIND FLANGE OR PLUG AT END OF WATERMAIN



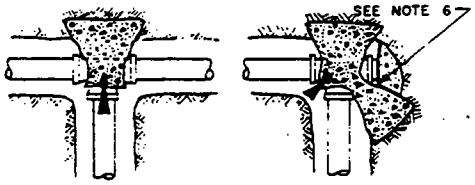
PLAN PLAN

CROSSES



ELEVATION

VALVES



PLAN PLAN

TEES

TABLE I

MINIMUM BEARING AREAS IN SQ. FT. *				
MAIN SIZE	TEE**	90° BEND	45° BEND	22½° BEND
6"	4	4	4	3
8"	5	7	4	3
10"	9	12	6	4
12"	12	16	9	6

* BASED ON 150 PSI W.W.P. PRESSURE & SOIL BEARING LOADS OF 2000 PSF. THE RATIO OF WIDTH TO HEIGHT SHALL NOT EXCEED 1 1/2 TO 1.

** TEES, PLUGS, CAPS & HYDRANTS.

TABLE II

*** SOIL TYPE	**** MAX. ALLOWABLE SOIL BEARING VALUES	FACTORS FOR INCREASING AREAS IN TABLE I
LOOSE SAND	500 PSF	4
SOFT SANDY CLAY	1000 PSF	2
ADOBE	1000 PSF	2
COMPACT FINE SAND	2000 PSF	1
COMPACT COARSE SAND	2000 PSF	1
MEDIUM STIFF CLAY	2000 PSF	1

*** THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SAFE SOIL BEARING VALUES AND THE POSITION AND SIZE OF BEARING AREAS.

**** BASED ON 2 FEET MINIMUM DEPTH OF COVER OVER THE PIPE.

GENERAL NOTES:

1. ALL ANCHOR AND THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL.
2. MINIMUM ALLOWABLE WATER PRESSURE FOR DESIGN OF THRUST BLOCKS IS 150 PSI. BEARING AREA INCREASES DIRECTLY WITH INCREASE IN PRESSURE.
3. ALL CONCRETE USED IN THRUST BLOCKS SHALL ATTAIN 2000 PSI STRENGTH.
4. ALL ANCHOR RODS SHALL BE REINFORCING STEEL AND A MINIMUM OF 1/2-INCH IN DIAMETER.
5. USE ANCHOR BLOCKS AT VERTICAL BENDS WHEN PIPE IS ABOVE OR BELOW GROUND. SIZE OF BLOCK AND ROD SHALL BE AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER IN THE FIELD.
6. USE 30 POUND FELT TO INSURE COLD JOINT.
7. CONCRETE SHALL NOT COME INTO DIRECT CONTACT WITH ASBESTOS CEMENT PIPE.
8. FOR PIPE 14" IN DIAMETER OR LARGER ENGINEER IS TO SUBMIT CALCULATIONS.

LOS ANGELES COUNTY WATERWORKS DISTRICTS	STANDARD DRAWING	W-21
PREPARED BY: WATERWORKS AND SEWER MAINTENANCE DEPARTMENT OF PUBLIC WORKS	APPROVED BY: Robert L. Larson ASSISTANT DEPUTY DIRECTOR	DATE: SEPT., 1988

EVENTIVE HEALTH SERVICES – ENVIRONMENTAL MANAGEMENT
UNTY OF LOS ANGELES

DATE

SAMPLE NO. 1

DESCRIPTION

TYPE OF PERMIT (CHECK)

- ☐ NEW WELL CONSTRUCTION
- ☐ RECONSTRUCTION OR RENOVATION
- ☐ DESTRUCTION

TYPE OF WELL

- ☐ PRIVATE DOMESTIC
- ☐ PUBLIC DOMESTIC
- ☐ IRRIGATION
- ☐ CATHODIC
- ☐ INDUSTRIAL
- ☐ GRAVEL PACK

TYPE OF CASING

METHOD OF SEALING OF CASING

METHOD OF DESTRUCTION

LOCATION

ADDRESS (NUMBER, STREET AND NEAREST INTERSECTION)

CITY

DIAGRAM (SHOW PROPERTY LINES, STREET, ADDRESS, WELL SITE, SEWERS, AND PRIVATE SEWAGE DISPOSAL SYSTEMS ALONG WITH LABELS AND DIMENSIONS)

APPLICANT

NAME OF WELL DRILLER (PRINT)

TRADE NAME

BUSINESS ADDRESS

CITY

NAME OF WELL OWNER (PRINT)

MAILING ADDRESS

CITY

I hereby agree to comply in every respect with all regulations of the County Preventive Health Services and with all ordinances and laws of the County of Los Angeles and of the State of California pertaining to well construction, reconstruction and destruction. Upon completion of well and within ten days thereafter, I will furnish the County Preventive Health Services with a complete log of the well, giving date drilled, depth of well, all perforations in casing, and any other data deemed necessary by such County Preventive Health Services.

Applicant's Signature

DISPOSITION OF APPLICATION: (For Sanitarians Use Only)

- ☐ APPROVED
- ☐ DENIED
- ☐ APPROVED WITH CONDITIONS

If denied or approved with conditions, report reason or condition here:

DATE

SANITARIAN

DATE

SECTION CHIEF

When signed by Section Chief, this application is a permit.

2(REV.6-75)

(APPLICANT)

SAMPLE NO. 2

NAL

h DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill

No. 40207

State Well No.

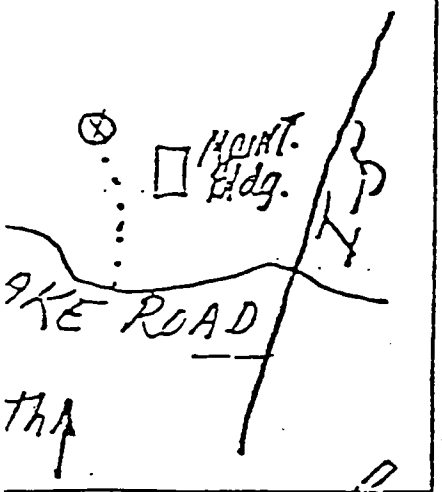
Other Well No.

nterest No.

it No. or Date

OWNER: Name City of Any Town
1234 Any Street
Any Town, CA Zip 90000

LOCATION OF WELL (See instructions):
Yolo County Owner's Well Number 76-1
ss if different from above 5675 Lake Road
10N Range 1W Section 28
m cities, roads, railroads, fences, etc. 12 mi. west of
nd, 0.5 mi. west of I5, 0.2 mi. no.
e Road, 200 ft. west of NW corner
nt. Bldg. east side of driveway.



WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 11)

(4) PROPOSED USE:
Domestic ☐
Irrigation ☐
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

MENT:
Reverse ☐
Air ☐
Bucket ☐

C INSTALLED:
Plastic ☐ Concrete ☐

(5) GRAVEL PACK:
Yes ☒ No ☐ Size 1/4" to 1"
Depth of bore
Placed from 50 ft. to 450 ft.

(6) PERFORATIONS:
Type of perforation or size of screen

To ft	Dia. in.	Gage or Wall	From ft	To ft	Slot size	
200	12	1/4"	275	285	100	(Johnson Screen)
450	12	1/4"	375	425	50	(Johnson Screen)
			430	450	B/32x2½	(Full-Flow Louvered)

L SEAL:
sanitary seal provided? Yes ☒ No ☐ If yes, to depth 50 ft.
sealed against pollution? Yes ☐ No ☒ Interval ft.
sealing Neat Cement Grout

ER LEVELS:
st water, if known 60 ft.
el after well completion 50 ft.

L TESTS:
t made? Yes ☒ No ☐ If yes, by whom? Doe Drilling
Pump ☒ Bailer ☐ Air lift ☐
ater at start of test 50 ft. At end of test 70 ft.
000 gal/min after 24 hours Water temperature 68F
alysis made? Yes ☒ No ☐ If yes, by whom? Smith Lab
log made? Yes ☒ No ☐ If yes, attach copy to this report

(12) WELL LOG: Total depth 499 ft. Depth of completed well 450

from ft	to ft	Formation (Describe by color, character, size of material)
0	5	Top soil
5	23	Gravel in red clay
23	31	Coarse sand and gravel
31	53	Hard yellow clay
53	65	Loose fine sand
65	152	Yellow clay and fine grave
152	158	Brown fine sand
158	176	Yellow clay
176	194	Soft sand clay
194	272	Blue soft clay
272	283	Loose coarse sand & pebble gravel
283	307	Blue clay
307	372	Fine sand with thin layers - blue clay
372	391	Fine black sand
391	400	Silty clay
400	425	Hard blue clay with thin layers of fine sand
425	450	Coarse sand and layers of cobble gravel
450	499	Blue shale

Work started Jan. 3, 19 77 Completed Jan. 21, 19 77

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED John H. Doe (Well Driller)
NAME Doe and Doe Drilling Co. (Person, firm, or corporation) (Typed or printed)
Address 5678 East Street
City Any Town, CA Zip 91234
License No 123456 Date of this report Feb. 20, 1

DO NOT USE THIS SPACE FOR PUBLIC WATER COMPANY

rev 3-76. IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

SAMPLE NO. 3

(LETTERHEAD OF TESTING LABORATORY)

CHEMICAL ANALYSIS

Analysis requested by _____

Sample of _____

_____ FILE _____

Sample marked _____ Collected by _____

Quantity _____ Date _____ Time of Day _____

	PARTS PER MILLION		PARTS PER MILLION
Calcium (Ca^{++})		Hydroxide (OH^{-})	
Magnesium (Mg^{++})		Carbonate (CO_3^{--})	
Sodium (Na^{+})		Bicarbonate (HCO_3^{-})	
Iron (Fe^{+++})		Chloride (Cl^{-})	
Aluminum (Al^{+++})		Sulfate (SO_4^{--})	
Boron (B^{+++})		Nitrate (NO_3^{-})	
Chromium (Cr^{++++++})		Sulfide (S^{--})	
Silica (SiO_2)		Fluoride (F^{-})	
Manganese (Mn^{++++})		Phosphate (PO_4^{---})	
		Cyanide (CN^{-})	
Total Cations		Total Anions	
Total Ions (calculated dissolved solids)			

pH	Dissolved Oxygen
Hardness (as $CaCO_3$)	Biochemical Oxygen Demand
Alkalinity (as $CaCO_3$)	Dissolved Solids
Carbon Dioxide CO_2 (Calc.)	Suspended Solids
Phenols	Total Solids
Oil and Grease	Turbidity
Conductance ($Kx10^{-6}$)	Color (Std. Cobalt Scale)
Hardness (Non carbonate)	

Remarks or Special Analysis _____

_____

Received at Laboratory _____ Laboratory No. _____

Analysis by _____ Date _____

SAMPLE NO. 4

CTERIOLOGICAL EXAMINATION OF WATER

Route No _____ Field ID No. _____

Name of Collector John Smith

e collected and received 1-1-83 District _____ Locality Agua Dulce

ner of Supply (Water Company, etc.) John Smith Water Company

ress 1234 West ABC Street

MPLING POINT Address 1234 West ABC Street

☒ WELL ☐ SWIMMING POOL ☐ OCEAN
☐ TAP ☐ STREAM ☐ SEWAGE EFFL.
☐ RESERV ☐ BATHING AREA ☐ RECLAIMED

DILUTION REQUESTED
☐ Drinking ☐ Reclaimed
☐ Sewage ☐ Plate Count

Raw _____
Cl Residual _____
ph _____

arks

IFORMS

ume Inoculated	10 ml 24 hrs	10 ml 48 hrs	1 ml.	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}
sumptive								
nfirmec								
al Coliform								

MPN/100 ml
Five 10 ml tubes neg
MPN Less than 2 2/100 ml ☐

Presumptive _____
Confirmec _____
Fecal Coliforms _____

AL STREPTOCOCCI

sumptive								
nfirmed								

Presumptive _____
Fecal Streptococci _____

oscopic _____

Count _____ per ml.

Date Reported 1-10-83 Phone Results ☐

1 of 2

WELL YIELD TEST DATA SAMPLE NO. 5

ATA FOR WELL NO.: _____ CLIENT: _____

OCATION: _____ PROJECT NAME: _____

MPED WELL NO.: _____

PE OF TEST: _____

NTRACTOR NAME: _____

NTRACTOR ADDRESS: _____

LL DESIGN DETAILS

LOT BORE: _____ DEPTH _____ DIA. _____ FINAL REAMED BORE: _____ DEPTH _____ DIA.

HEDULE OF WELL CASING:

TYPE OF CASING	DIAMETER	DEPTH INTERVAL

PING EQUIPMENT

E OF PUMP: _____ MAKE: _____ MODEL NO.: _____

METER OF BOWLS: _____ NO. OF STAGES: _____ DEPTH OF INTAKE: _____

ED CAPACITY: _____ METHOD OF DISCHARGE MEASUREMENT: _____

T DATA

E PUMP STARTED: _____ DATE: _____ AVERAGE DISCHARGE: _____

E PUMP STOPPED: _____ DATE: _____ AQUIFER THICKNESS: _____

PING DURATION: _____

ANCE FROM PUMPED WELL TO OBSERVATION WELL: _____

IC WATER LEVEL FROM REFERENCE POINT (R.P.): _____

RENCE POINT TO GROUND SURFACE (G.S.): _____

ate	Time	T (Min)	PWL (ft) Pumping Water Level	S (ft) Depth to Water	Q (gpm)	Q/S (gpm/ft)	Observations

TIME RECOVERY TEST DATA

SAMPLE NO. 6

TA FOR WELL NO.: _____ CLIENT: _____

CATION: _____ PROJECT NAME: _____

MPED WELL NO.: _____

PE OF TEST: _____

NTRACTOR NAME: _____

NTRACTOR ADDRESS: _____

L DESIGN DETAILS

TOT BORE: _____ DEPTH _____ DIA. FINAL REAMED BORE: _____ DEPTH _____ DIA.

HEDULE OF WELL CASING:

TYPE OF CASING	DIAMETER	DEPTH INTERVAL

IPING EQUIPMENT

'E OF PUMP: _____ MAKE: _____ MODEL NO.: _____

METER OF BOWLS: _____ NO. OF STAGES: _____ DEPTH OF INTAKE: _____

ED CAPACITY: _____ METHOD OF DISCHARGE MEASUREMENT: _____

T DATA

E PUMP STARTED: _____ DATE: _____ AVERAGE DISCHARGE: _____

E PUMP STOPPED: _____ DATE: _____ AQUIFER THICKNESS: _____

PING DURATION: _____

TANCE FROM PUMPED WELL TO OBSERVATION WELL: _____

TIC WATER LEVEL FROM REFERENCE POINT (R.P.): _____

ERENCE POINT TO GROUND SURFACE (G.S.): _____

ate	Time	Since Pump T (Min) Test Started	Since Pump T' (Min) Test Started	Ratio T/T'	Recovered RWL (ft) Water Level	Static WL S' (ft) Minus RWL	RWL-S' S-S' CALC. Recovery	Observation

ORM TR-1

ADJACENT WELL DATA SAMPLE NO. 7

DATA FOR ADJACENT WELL NO.: _____ OWNER: _____

LOCATION: _____ PROJECT NAME: _____

CONTRACTOR NAME: _____ PHONE: _____

CONTRACTOR ADDRESS: _____

WELL DESIGN DETAILS

PILOT BORE: _____ DEPTH _____ DIA. _____ FINAL REAMED BORE: _____ DEPTH _____ DIA. ___

SCHEDULE OF WELL CASING:

TYPE OF CASING	DIAMETER	DEPTH INTERVAL

PUMPING EQUIPMENT

TYPE OF PUMP: _____ MAKE: _____ MODEL NO.: _____

DIAMETER OF BOWLS: _____ NO. OF STAGES: _____ DEPTH OF INTAKE: _____

RATED CAPACITY: _____ METHOD OF DISCHARGE MEASUREMENT: _____

TEST DATA

TIME PUMP STARTED: _____ DATE: _____ AVERAGE DISCHARGE: _____

TIME PUMP STOPPED: _____ DATE: _____ AQUIFER THICKNESS: _____

PUMPING DURATION: _____

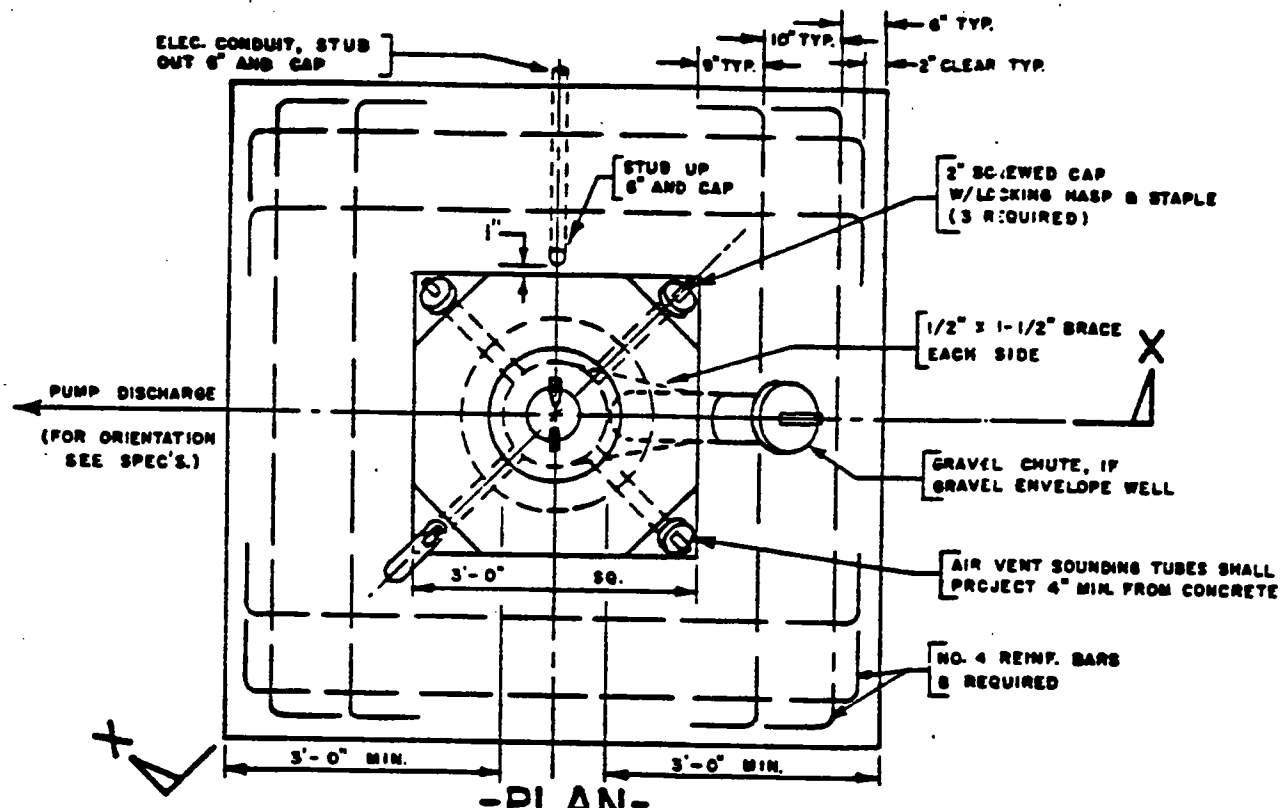
DISTANCE FROM NEW WELL TO ADJACENT WELL: _____

STATIC WATER LEVEL FROM REFERENCE POINT (R.P.) OF ADJACENT WELL: _____

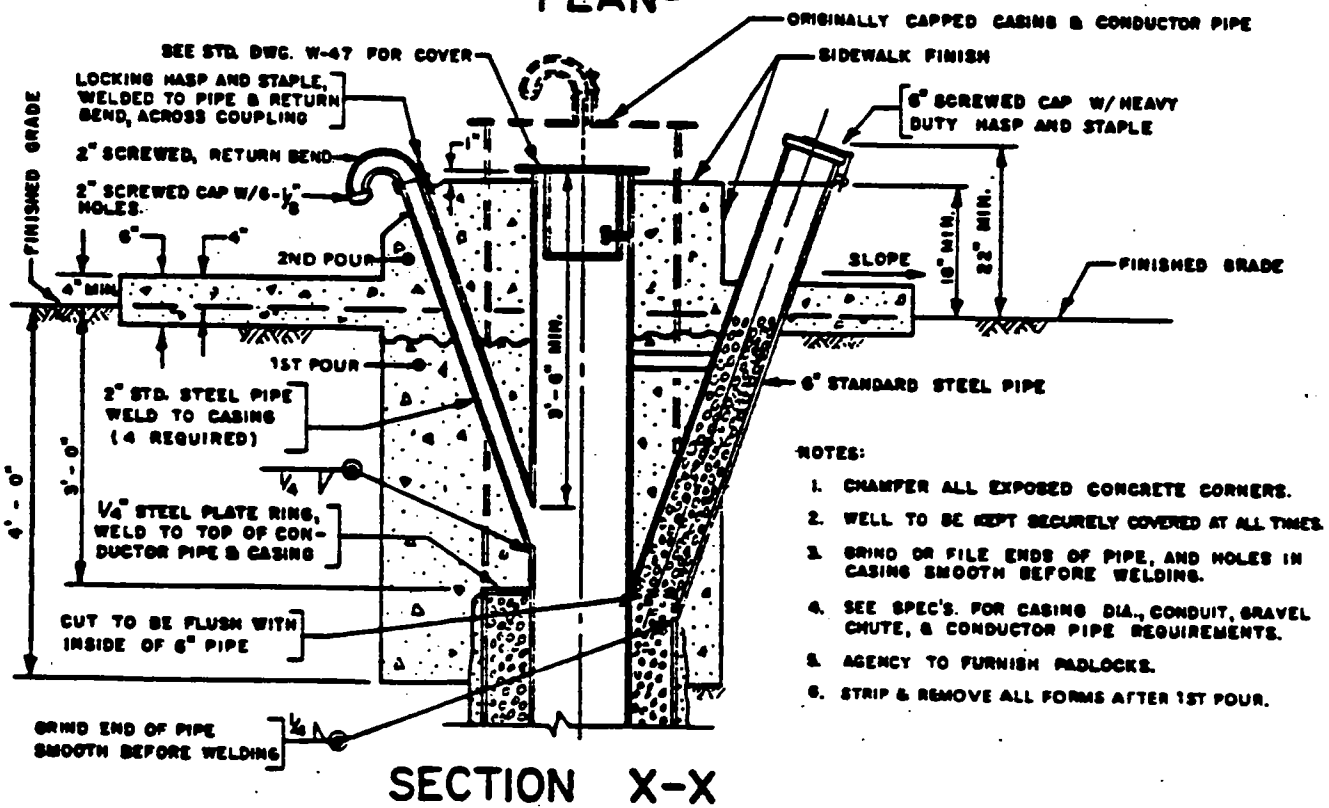
REFERENCE POINT TO GROUND SURFACE (G.S.) AT ADJACENT WELL: _____

		DRAWDOWN				TIME RECOVERY		OBSERVATION
		NEW WELL PUMP ON		BOTH PUMPS ON		BOTH PUMPS OFF		
Date	Time	T (Min)	WL (ft)	T (Min)	WL (ft)	T (Min)	WL (ft)	

WELL SLAB AND PEDESTAL



-PLAN-



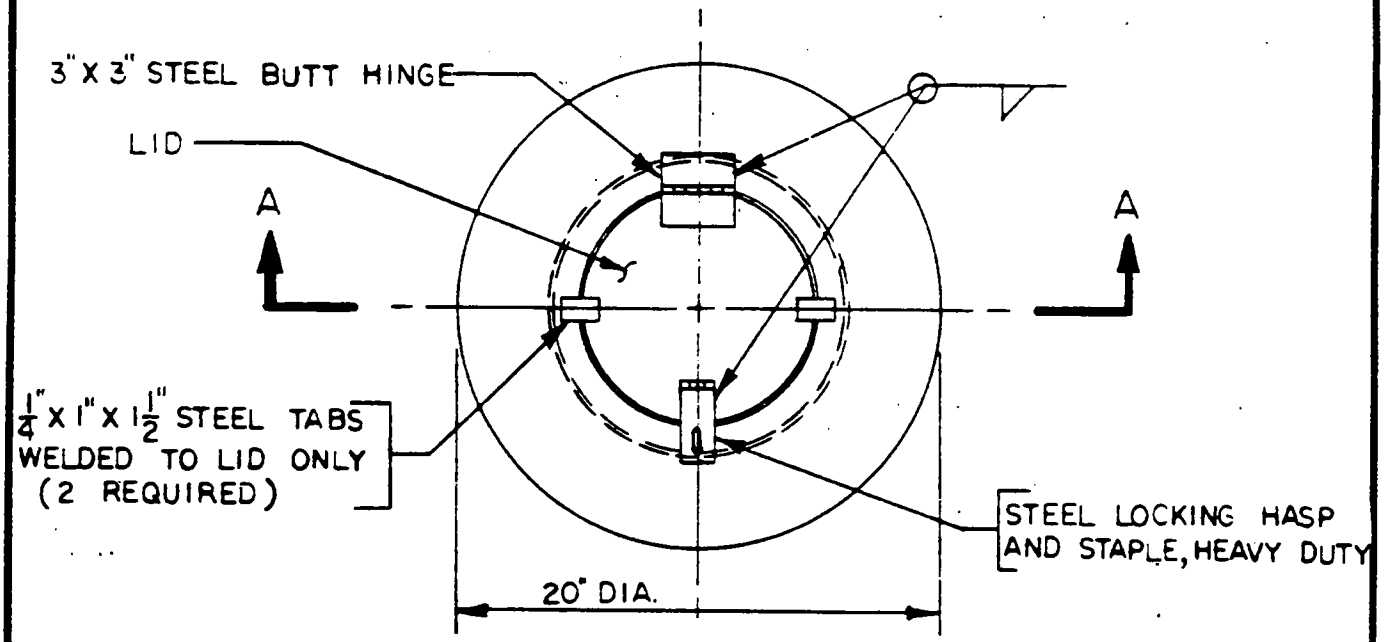
SECTION X-X

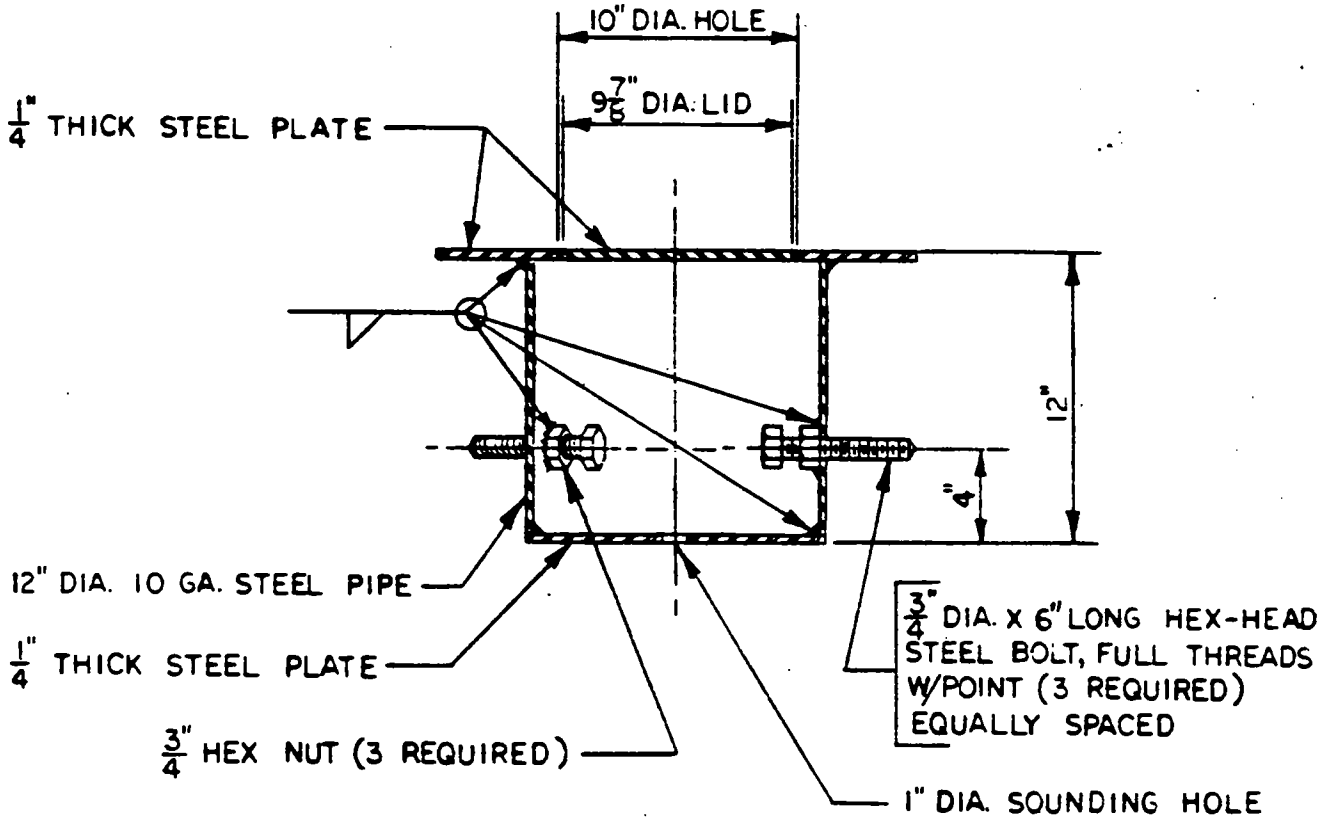
NOTES:

1. CHAMFER ALL EXPOSED CONCRETE CORNERS.
2. WELL TO BE KEPT SECURELY COVERED AT ALL TIMES.
3. GRIND OR FILE ENDS OF PIPE, AND HOLES IN CASING SMOOTH BEFORE WELDING.
4. SEE SPEC'S. FOR CASING DIA., CONDUIT, GRAVEL CHUTE, & CONDUCTOR PIPE REQUIREMENTS.
5. AGENCY TO FURNISH PADLOCKS.
6. STRIP & REMOVE ALL FORMS AFTER 1ST POUR.

LOS ANGELES COUNTY WATERWORKS DISTRICTS	STANDARD DRAWING	W-20
PREPARED BY: WATERWORKS AND SEWER MAINTENANCE DEPARTMENT OF PUBLIC WORKS	APPROVED BY: Robert L. Larson ASSISTANT DEPUTY DIRECTOR	DATE: SEPT., 1988

WELL COVER





SECTION A-A

LOS ANGELES COUNTY WATERWORKS DISTRICTS	STANDARD DRAWING	W-47
PREPARED BY: WATERWORKS AND SEWER MAINTENANCE DEPARTMENT OF PUBLIC WORKS	APPROVED BY: Robert S. Lawson ASSISTANT DEPUTY DIRECTOR	DATE:

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CHAPTER 49

GEOTECHNICAL GUIDELINES

Two independent guidelines are provided in this Chapter to aid the engineering geologist and geotechnical engineer in their different professional responsibilities. A consultant's report containing both engineering geology and geotechnical engineering must consider and comply with both guidelines (Sections I and II). They will be used by the Materials Engineering Division for reports and plans sent for engineering geology and/or geotechnical engineering review.

Most civil engineering projects require geotechnical investigations with input from both a geotechnical (soils) engineer and an engineering geologist. The results of the investigation may be presented separately or combined into one report. When both a geological and an engineering report are required, the two reports shall be coordinated before submission to the Department of Public Works.

Since two distinct professions are involved in a geotechnical investigation, the two professionals must work together and it is important to define the fields of expertise of these two professionals. Chapter 61 defines responsibilities of each professional in submitting geotechnical data, analyzing the data, and making recommendations. It is important for the consultant, civil engineer and the agency reviewer to understand the legal aspects and the professional expertise of the two professionals when making design decisions.

SECTION I. ENGINEERING GEOLOGY REPORT GUIDELINES

The following are minimum guidelines for the preparation of various specific and general engineering geology reports prepared by private consulting engineering geologists, and for reviews of them provided by the Materials Engineering Division for compliance with governmental regulations. Criteria used relative to subdivision of landslide hazards, "ungraded site lots," and "remainder parcels" are included.

These guidelines do not exempt the private consultant engineering geologist from the State Registration Board's or other geologic professional standards for practice, nor exceeding those standards where geologic hazards warrant.

A. General Guidelines

The California Division of Mines and Geology (CDMG) has prepared various guidelines (Notes 42, 43, 44, 46 and 49) to assist in the preparation of a geologic report and are appends to this Manual for reference. Copies are provided at the end of this chapter.

The "Recommended Guidelines for Determining the Maximum Credible and Maximum Probable Earthquakes" (Note 43) and the "Guidelines to Geologic/Seismic Reports" (Note 42) are particularly applicable for the preparation of the seismic portion of an engineering geology report. The "Recommended Guidelines For Preparing Engineering Geologic Reports" (Note 44) presents detailed guidelines for a geology report. Note 46 provides a check list for the review or preparation of an environmental impact report. Note 49 is applicable for providing an adequate geologic investigation specifically for hazards associated with fault surface rupture.

The consultant and reviewing geologists are referred to other chapters of this Manual for completeness for geologic approval and processing relative to the Materials Engineering Division, specifically including Chapters 8, 9, 10, 11, 12, 14, 15, 16 17, 24, 26, 27, 28, 30, 39, 40, 41, 50, and 61.

Copies of standard forms and statements for the processing of the various stages of geotechnical development review can be obtained from the Materials Engineering Division at (818) 458-4923.

B. Detailed Guidelines

It is recognized that different geologic conditions, purposes, and project proposals will require reports of different length, scope, and orientation. A full and complete presentation of all pertinent geologic data and factors must be included in the report. The conclusions and recommendations must be based on the most logical analysis of the data.

An addendum engineering geology report may be requested for additional information and supporting data to substantiate regulatory compliance and professional opinions.

Reviewers and preparers of reports must consider existing available data for a site or plan evaluation.The consultant is advised that geologic data from existing Department files, from adjacent developments to the particular site being studied, will be used in the review process. Resolution of pertinent discrepancies between submitted and on–file data will be required. Adjacent property files used or reviewed should be referenced in submitted reports.

The following guidelines for detailed engineering geology reports, are in part, taken from CDMG notes and are considered supplemental to, or supportive of them.

1. Purpose and Scope of Detailed Guidelines

The purpose of these guidelines is to provide engineering geologists with the kinds of information necessary for the preparation of adequate and acceptable reports. With regard to private development, it is not the purpose of these guidelines to establish rigid requirements, but rather to act as a guide and check list in the preparation and review of geologic reports to meet the requirements of County Codes and other governmental regulations, policies, and criteria.

2. General Information Required

All geologic reports shall contain statements concerning the following items (Item 3f, "In-grading Reports" and Item 3h, "Restricted Use Area Reports" may be exceptions):

a. Location and size of the area being investigated, and its general setting with respect to major geographic and/or geologic features (this includes identifying the property by listing street address, parent tract, tract, or parcel map number).

b. Topography and drainage of the area.

c. A description of earth materials within the subject area and an indication of their competency.

d. Information regarding the nature and source of available subsurface data.

e. Name of the geologist(s) responsible for the field mapping upon which the report is based, and the dates the mapping was performed.

f. Manual signature of all reports by a state certified engineering geologist.

g. A bibliography of all references and aerial photographs used.

h. County Building Code Section 309 Statement.

3. Required Engineering Geology Reports for Land Development

Different types of engineering geology reports are required depending upon the stage of development review or approval requested, such as environmental impact, tentative subdivision, building or grading permit, rough grading, recordation, etc. Detail requirements for an engineering geology report are covered in Item C below. The general scope of reports required for purposes of the various development stages relative to review and preparation are:

a. Environmental Impact Reports or Documents (Geologic Portion)

The scope of the geologic portion must be sufficient to identify existing and potential geologic hazards and present measures to mitigate their significance to the environment relative to the development project. CDMG Note 46 - provides a check list of environmental/geologic factors to consider. Requirements of the California Environmental Quality Act must be met. Guidelines for compliance to the Act has been prepared by the County and adopted by the Board of Supervisors November 17, 1987, entitled "Environmental Document Reporting Procedures and Guidelines."

See Chapters 9 and 28 regarding geotechnical processing and review of environmental documents by the Materials Engineering Division.

b. Geological Site Inspections

The primary purpose of a geological site inspection by the Materials Engineering Division is to determine whether or not an engineering geology and/or geotechnical engineering report(s) will be required for a tentative, specified building location on a vacant, residential lot. Only a cursory, one-time review is made of the site, or of a report if submitted, therefore, review findings must be considered tentative and subject to change, and cannot be relied upon to obtain a permit in the future. Detailed engineering geology and geotechnical engineering reports, as

outlined in this Manual, are required for future plan approval. See Chapter 10 regarding the processing and scope of the Geological Site Inspection relative to the Materials Engineering Division.

c. Tentative Subdivision Map Reports

All geologic reports which are submitted for the purpose of determining development feasibility of a tentative subdivision map must be based on the latest tentative plan submitted to the Department of Regional Planning. Sufficient geologic information must be presented to substantiate that the site is suitable for the proposed development as designed and that existing or potential geologic hazards have been identified, effect on development established, and mitigative measures and design provided.

The date of the plan upon which the report is based, must be specifically referenced in the geologic report. A copy of the tentative map must be used as a base for the geologic map. Cross-sections must be provided through landslides, cut slopes requiring stabilization, high fills requiring slope stability analyses and natural slopes with potentially unstable conditions. Confirmation of design relative to geotechnical issues will be emphasized in peripheral areas of subdivisions in hillside terrain where off-site properties may be affected or where off-site access for remediation could be inhibited.

Generally, for geologic purposes, the scale for a tentative map should be prepared at a minimum of 1 inch equals 100 feet.

See Chapters 11, 12, and 29 regarding review and processing of subdivisions by the Materials Engineering Division.

d. Grading Plan Reports

The report shall present all the geological information for the area pertinent to the proposed grading. Cross sections of existing and proposed slopes that may be unstable must be included. The geology map must utilize a copy of the latest grading plan as a base and both the geology map and the grading plan must be dated. The scale of the map should be appropriate to permit sufficiently accurate measurements for analysis for remedial design and construction. If the grading plan is revised, a revised geology map and cross section(s) must be prepared based on the new plan.

If requested, the consulting engineering geologist shall manually sign and date copies of the grading plan to verify that his recommendations have been incorporated in the grading design and are shown correctly on the plans. Engineering geology reports used for approval at the subdivision stage are commonly requested to be expanded to provide additional exploration, detailed analysis, and testing for the grading plan stage.

Reports for grading plans must substantiate that proposed structures will be safe from geologic hazards, graded areas will be stable, and where on-site sewage disposal is necessary, must include data, analysis and recommendations to assure effluent will not "daylight" on the surface, create instability or adversely affect adjacent property.

See Chapters 14, 15, and 30 regarding geotechnical processing regarding grading as applied to the Material Engineering Division.

e. Building Plan Reports

The report shall present all the geological information affecting the project area. Cross sections of existing and proposed slopes that may be unstable must be included. The geology map must be prepared utilizing a copy of the latest foundation and/or grading plan as a base.

All plans and maps must be dated. If the plans are revised, a revision of the geology map and cross sections may be required. The geologist must also approve (sign) the plans to verify that his/her recommendations have been incorporated.

Where on-site sewage disposal is necessary, evaluation and recommendation to assure effluent will not surface and create instability must be included in the report.

See Chapters 16 and 17 regarding geotechnical review and processing for building relative to the Materials Engineering Division.

f. In-grading Geologic Reports

Sufficient geologic inspections must be made by the consultant to assure all geological conditions have been considered and recommended remediation completed. Periodic in-grading geologic inspection reports are generally required during project construction. If unanticipated adverse conditions are encountered, the Building Official may require that the construction cease until the impact of the conditions can be properly assessed.

Primary purposes of in-grading reports are to inform the Department's Geology Development Review Section of (1) grading status, (2) any unanticipated geologic conditions, (3) compliance with the consultant's recommendations, and (4) any revised recommendations and/or corrective measures. Adequate inspections must be made, particularly of canyon clean-outs and buttress and shear keys, prior to placement of fill, to verify geologic conditions and to confirm, with the geotechnical engineer, the need for subdrains or removal of surficial or landslide materials.

g. Final Geology Report and Geologic Map

At the completion of rough grading and prior to approval for the issuing of a building permit, the consulting geologist is commonly required, in accordance with Title 26 of the County Code, to submit a final report and geologic map superimposed on the as-graded plan, and/or an as-graded geologic cross section. The purpose of this report is to obtain the consultant's specific approval of rough grading, to show and discuss any change in geology which may have been encountered, to present recommendations for proposed structures and for on-site sewage disposal where proposed. Engineering geologists must include in their final reports a Section 309 statement and a statement that to the best their knowledge, the work within their area of responsibility is in accordance with their report(s) and applicable provisions of the County Building Code. The final geologic map must be based on a map showing original topographic contours and post-site grading contours. This data will become a permanent record and can be used to assess any future grading modifications or geologic problems, or additional future construction.

Final Reports must contain references for all previous reports relative to the grading and/or subdivision.

See Chapters 3, 29, and 70 of the Los Angeles County Building Code, this chapter and Chapter 15 of this Manual for geotechnical review, processing and requirements applicable to rough geologic approval by the Materials Engineering Division for building.

As a minimum, the final geologic map must include the following:

1. The geology as exposed by the grading in sufficient detail to justify the geologist's conclusions that the site will be safe for the intended use.

2. The post-grading cut-fill natural daylight lines; clearly drawn and labeled, and preferably colored.

3. The location of all final geologic cross-sections, subdrains, springs or seeps, shear key (fill) excavations, buttress fills, approved sewage disposal area, special replacement fills, "Restricted Use Areas," geologic hazard setback lines, landslides removed and/or not removed by grading, geology of the adjoining natural terrain, exploratory excavations and borings not removed by grading, areas of over-excavation and replacement, sufficient geologic symbols to clearly depict the geologic structure and lithologies.

4. Tract, parcel and lot numbers and their boundaries corresponding to the latest final recorded subdivision map.

5. If the Geology Development Review Section determines that the final geologic map is not sufficiently detailed to verify that the site's intended use will meet Code requirements, or departs from field observations of as-graded conditions, geologic approval of the rough grading will be withheld until the map is revised to properly reflect existing conditions.

h. "Restricted Use Area" Report

The "Restricted Use Areas" report is part of the geotechnical subdivision recordation process. See Chapter 29 for geotechnical review and processing relative to the Materials Engineering Division.

When required prior to recordation of a subdivision, a letter or report must be submitted by the consulting engineering geologist and geotechnical engineer of record which evaluates whether or not there is Restricted Use Area (i.e., if there are existing or potential geotechnical hazards present). If present, a geotechnical map must be included which shows the area, including the basis for its delineation.

Once established, the Restricted Use Area must be shown as Restricted Use Area on the Final Subdivision Map, or the geologic hazard must be mitigated.

i. Geologic Report for Reconstruction (Damage Due to Geologic Hazard)

Unless otherwise allowed in regulatory codes and Department policies, geotechnical report and remediation must meet current requirements for new construction. Due to the limited extent of "substandard" repair or reconstruction allowed and numerous possible scenarios of geotechnical hazards and damages, the applicant is encouraged to contact the Building and Safety/Land Development Division and Materials Engineering Division for advisement for specific conditions and proposed repair.

C. Engineering Geology Report Contents

1. Detailed data and descriptions required in geologic reports

Detailed report contents contained herein, are extracted, in part, from CDMG Guidelines. A copy of the guidelines, Notes 37, 43, 44, 46, and 49 are in the Appendix of this chapter.

Geologic reports shall contain reasonably detailed and complete description of all geologic materials and structural features recognized or inferred within the project area. Where interpretations are added to direct observations, the basis for, and degree of reliability of such interpretations shall be clearly stated. The primary purpose of the geologic report shall be an accurate evaluation of the geologic parameters as related to the proposed design. The geologic report must be coordinated with the geotechnical engineering (soils) report. The

following detailed check list will be used where applicable for the preparation and/or review of geologic reports:

a. Structural Features—such as stratification, folds, anticlines, synclines, foliation, schistosity, zones of contortion or crushing, joints, shear zones, faults, old slide planes, unconformities, etc. When encountered, the following descriptions are required:

1. Occurrence and distribution of structures and marker beds.
2. Dimensional characteristics.
3. Attitudes and shifts in orientation (contorted bedding).
4. Relative ages (where pertinent).
5. Special physical and chemical effects upon the bedrock due to environmental changes.

b. Drainage—Surface Water and Groundwater

1. Distribution and occurrence (e.g., streams, ponding, sagponds, swamps, springs, seeps, and subsurface basins).
2. Relationship to topography.
3. Relationship to geologic features (e.g., pervious strata, fractures, and faults).
4. Date, location and elevation of water levels, including recorded highs and lows.
5. Variations in amounts of water (e.g., intermittent springs and seeps, floods).
6. Location, depth, and cap or seal depth of proposed private sewage disposal systems.
7. Evidence for earlier occurrence of water at presently dry localities (e.g., vegetation, mineral deposits, and historic records).
8. The effect physical and chemical weathering may have on future behavior of in-situ materials.
9. Historical and anticipated future high ground water levels.

c. Surficial Uncemented Deposits and Materials—such as artificial fill, topsoil, alluvium, beach sands and gravels, residual debris, lake and pond sediment, swamp accumulations, dune sands, marine and non-marine terrace deposits, talus accumulations, creep prone and slope-wash materials, various kinds of slump and slide debris (colluvial accretions or flow deposits), etc. Define such surficial materials present when pertinent to development, relative to:

1. Distribution of general types of materials relative to determining stability and competence for the intended use.
2. Distribution, occurrence, and relative age; relationships with present topography. Each of those materials present must be defined as follows:
3. Dimensional characteristics (e.g., thickness, variations in thickness, and shape).

4. Surface expression and correlation with features such as terraces, dunes, undrained depressions, anomalous topography.
5. Physical characteristics (e.g., color, grain size, hardness, compactness, cohesion, and cementation).
6. Special physical or chemical features (e.g., expansive clay minerals, alteration, cracks, fissures and fractures).
7. Distribution and extent of weathered zones; significant strength differences between fresh and weathered materials.
8. Response of the surficial uncemented deposit to natural surface and near-surface processes (e.g., raveling, gullying, subsidence, creep, slope wash, slumping and sliding, debris flows or avalanches, and mudflows).
9. Relative stability of the surficial units and how they may affect the stability of the proposed design.

d. Special Adverse and Hazardous Conditions

If not included in other sections of the geologic report, the following conditions should be addressed separately:

1. Slump and landslide masses in bedrock and/or surficial deposits; distribution, geometric characteristics, correlation with topographic and geologic features, ages and rates of movement.
2. Evidence and cause of subsidence or settlement (e.g., fissures, scarplets, offset reference features, historic records and measurements).
3. Evidence of creep (e.g., fissures, scarplets, distinctive patterns of cracks and/or vegetation), ridges or bulges, displaced or tilted reference features, and historic records and measurements).
4. Topographic indications of accelerated erosion (e.g., cliff re-entrants, badlands, and advancing gully heads).
5. Deposits related to recent floods (e.g., talus aprons, debris ridges, canyon bottom debris, and mudflows).
6. Active faults and their effects upon the proposed development.
7. Potential for debris flows, avalanches or mud flows.
8. Hydrogeologic conditions and characteristics relative to stability.
9. Seismic shaking related potential hazards, such as landslides, liquefaction, etc..
10. Potential presence of earth materials subject to hydroconsolidation, consolidation, or that is contaminated with hazardous materials or fluid.

e. Subsurface Exploration

Subsurface exploration is one of the most important aspect of an investigation for the engineering geology report and is required to substantiate professional opinions. Subsurface exploration and testing should be coordinated with the geotechnical engineer where geotechnical engineering evaluation and analysis are warranted or required. Exploration shall be performed in any and all areas of known or

suspected geologic hazards. Adequate exploration will avoid unnecessary time delay in the development review process of approval for subdivisions, grading plans and building plans, and will eliminate changes during grading or construction. Detailed logs with graphic depictions of all subsurface exploratory borings or excavations shall be included in the report. When sediments are encountered, size descriptions are to be included in the logs. Rock types, bedding attitudes, joints, faults, fractures, slide surfaces, and the physical properties relative to foundation and slope stability must also be included.

As an aid to those responsible for the preparation of geologic reports, the following presents some of the circumstances requiring subsurface exploration:

1. All landslides and surficial materials (slumps, mudflows, debris flows and colluvium) and other related features, such as identifying slide planes/zones for geotechnical engineering testing and analysis. The three-dimensional geometry and hydrogeology of landslides must be established and requires subsurface exploration; piezometers may be required or warranted for analysis and/or design for remediation.
2. All areas which (1) do not contain sufficient natural exposures to establish a clear, statistically reliable geologic structural picture, or (2) contain unreliable natural exposures (e.g., exposures affected by creep).
3. All fault zones which may represent a ground water conduit or barrier, or affect the stability of proposed cuts and fills.
4. All proposed fill slopes exceeding 20 feet in height unless data gathered in the immediate vicinity permits an assessment of stability.
5. All proposed cut slopes exceeding 50 feet in height require exploration which shall be explored at least 10 feet below the elevation of the toe of the cut, or equivalent data, to determine geologic conditions affecting slope stability. If fills are proposed above the cut, the total height of the slope includes the fill portion.
6. All areas near or adjacent and underlying existing landslides which are suspected of possessing bedrock conditions or structure similar to those found within a slide area.
7. All areas of known or suspected high groundwater.
8. All areas shown on tentative tract maps as ungraded lots (left in a natural state), unless data gathered in the immediate vicinity permits an acceptable assessment of site stability and a safe buildable site.
9. All designed remedial work must have substantiating exploration data.
10. All active and potentially active faults as identified in the Los Angeles County Safety Element, State Alquist-Priolo Earthquake Fault Zones Act Maps and County Code.
11. Mathematic models used for slope stability analysis.

f. Landslides

1. Geometry of the landslide including depth, length, width and geologic cross sections.
2. Mechanics of movement (e.g., Did movement occur as a single unit or in separate blocks? Was (is) the movement planar, rotational, compound, etc.? What was the amount or rate of movement?)
3. Geologic age or date of movement.
4. Description of slide plane(s), composition (gouge), thickness, etc.
5. Groundwater/hydrogeologic conditions; past, present and estimated future.
6. Cause(s) of movement (past and/or present).
7. Degree of future stability with regard to proposed corrective measures and changes in the environment.
8. Assessment of potential existence of landslides must includes use of stereo aerial photographs.

Information and parameters of landslides must be based on specifically observed data and requires detailed topography and geologic mapping, study of stereo aerial photographs, test borings and pits, soil and rock sampling and testing, water table and piezometric measurements, and may require instrumentation, such as survey measurements and slope inclinometers where movement is known or suspected.

The interpretation of three-dimensional geometry, groundwater, and material strengths for stability analysis by the soils engineer for remediation and construction, must be based on subsurface exploration data.

g. Conclusions and Recommendations

All report conclusions must be based on the most logical interpretation of the data presented in the report, and presented in a manner which is clear and concise.

All geologic recommendations must be as specific as possible commensurate with the quality and reliability of the data presented in describing the covered areas and appropriate to the scope of grading of development proposed. In a geologic report which is submitted for the review of a grading plan, the engineering geologist shall indicate specifically by lot number which cut-slopes may be hazardous, rather than indicating, in general, that "all north facing cut slopes" will be hazardous. The areas requiring possible or known corrective measures shall be clearly depicted on all geologic maps, for incorporation into the development plans.

In general, the conclusions and recommendations must consider the effects of geologic features upon the proposed grading, construction, or land use as well as the effects of the proposed development upon future

geologic processes. Assessment and evaluation must be cooperatively determined with the geotechnical engineer where geotechnical engineering evaluation and analysis are warranted and required.

The following is a general guide for the focus of conclusions and recommendations to be included in a geologic report:

1. Compatibility of geology as related to the proposed land use:

    a. Suitability of earth materials.
    b. Slope stability.
    c. Collapsing soil, compressible materials and subsidence problems.
    d. Existing topography as related to planned land use.

2. Proposed cut slopes and/or remaining natural slopes:

    a. Need for slope stability analysis.
    b. Identification of excavation problems, including rippability, groundwater conditions, etc.
    c. The possible need for reorientation or repositioning of cut slopes, reduction of cut slope heights, special stripping of soil mantle, placing buttresses, and/or stabilization fills, constructing retaining walls, controlling slope surface erosion, and subdrains.

3. Proposed fills:

    a. Assessment of geologic factors for fill area(s).
    b. Need for benching, keying, subdrains and erosion control.

4. Additional subsurface material testing and exploration:

    a. Areas to be undeveloped or left as natural ground.
    b. The need for removal or stabilization of existing landslide masses.
    c. The need for protection from wave action along shorelines.
    d. The need for solutions to problems relative to groundwater movement.
    e. The location of structures with respect to active faults.
    f. The location and depth of private sewage disposal systems as they might affect site stability and daylight sewage effluent (Pollution problems affecting public health and safety are the responsibility of the Department of Health Services).
    g. Delineation of geologic hazards or Restricted Use Areas for private development subdivisions.

5. Compliance with Codes, inclusive, but not limited to the County Subdivision Code and the County Building Code: (i) Chapter 3,

Sections 308 (Geologic Hazards), 309 (Geotechnical Reports), 310 (Earthquake Fault Maps), and 311 (Earthquake Faults) and (ii) Chapter 70 (Grading). Thorough familiarity with these County Codes are required.

For compliance with Sections 308 (b) and 309 of the Building Code, specific unequivocal findings must be stated in all reports for building or grading plans that, grading, site, and structure are safe from "landslide, settlement, or slippage" and will not adversely affect adjacent property.

6. All engineering geology reports must be signed by a California registered geologist certified as an engineering geologist.

h. Geologic Map Details

1. A detailed geologic map will be required as part of all geologic reports. It must show all data obtained or existing pertinent to site analysis and stability.

2. All geologic maps must have as their base the most recent legible development plan and/or topography. Information shown on the base map must include but shall not be limited to:

   a. The scale of the map must be sufficiently large to clearly show all pertinent geologic features. In order to attain expeditious reviews, the scale for a tentative subdivision map should be no smaller than 1 inch equals 100 feet. Larger scales should be used in areas requiring detailed measurements, such as those for performing slope stability calculations. The scale for a grading plan should be no smaller than 1 inch equals 40 feet.
   b. A north arrow.
   c. The source and date of the survey data and base map.
   d. Dates of any revisions of the base map.
   e. Legend of geologic symbols used.
   f. All existing and proposed topography.
   g. A site location map showing adjacent land subdivisions.
   h. Building pad and street elevations.
   i. Key physical and geographic features which can be identified in the field.
   j. Contour interval.

3. Geologic Data Required On Geologic Maps

The geologic map must be the product of a geological investigation in sufficient detail to support the geologist's conclusions and recommendations. Existing geologic maps prepared by other qualified engineering geologists may be adequate if these maps are acceptable to the consulting geologist in responsible charge and in

his written opinion, accurately depict the geologic features affecting the proposed development and adjacent property.

The use of stereographic pairs of aerial photographs is considered standard procedure in engineering geology practice and is routinely required of the reviewing geologist for the Materials Engineering Division, particularly relative to identification of faults and presence of landslides. In all cases, a summary list of the photographs used by the engineering geologist in his investigation shall be included in the report. The list shall include the photography firm's name, the dates the photographs were taken, and the code identification so that copies can be obtained in the future. Copies of these photographs may be required for review purposes.

Features to be shown on the geologic map shall include, but not be limited to the following:

a. Anticlines
b. Syclines
c. Domes
d. Faults (Include direction and magnitude of movement where observed or inferred).
e. Dips, strikes and composition of bedded materials (Include a sufficient number of observations to establish a clear, statistical trend or lack of a trend).
f. Shear zones.
g. Jointing patterns and joint attitudes.
h. Geological contacts.
i. Marker or mappable beds within formations, (Describe physical and behavioral characteristics such as bentonitic materials, gravel beds, etc.).
j. Landslides, slumps, rockfalls and related features.
k. Debris flows, mudflows, and avalanches (existing or potential).
l. Areas of expansive soil or rock. Areas subject to creep (include approximate thickness).
m. Series of intercalated silts, sands and clays, whether laminated or thinly stratified.
n. Terraces (marine or non-marine, erosional or depositional, debris or flood plain deposits, etc.).
o. Cracks and fissures (including type, significance, depth and extent).
p. Location and identification of all cross sections.
q. Labeled locations of test pits, trenches, test borings, seismic survey lines, etc.
r. Location, depth, and capping depth of all private sewage disposal system.

s. The name of the engineering geologist responsible for the mapping and the names of all persons assisting in the mapping (or indicated in the report.

t. A legend of symbols used. Wherever possible, formational names and descriptions shall conform with the latest United States Geological Survey usage. (If usage is other than the U.S.G.S., the reference shall be cited.)

The geologic map and the soils map may be combined. In all cases, show on the map the location of all borings, test pits, trenches, in–situ tests, etc., used to gather information for the geotechnical report. This includes the location of data used from other reports. Data from other reports must be clearly referenced.

In summary, the engineering geologist shall map the geologic formations, or other mappable lithologic units, geologic structures, and surficial features in detail, and in accordance with state-of-the-art standards and nomenclature. The mapping shall present fully and clearly all geologic features pertinent to a complete and accurate evaluation of the feasibility and design of the project so that the map can be effectively and objectively reviewed.

4. Geologic Sections, Tabulations, Boring Logs and Other Supporting Data

In most cases, the three-dimensional geological relationships cannot be adequately described or depicted without the aid of geologic cross sections. The engineering geologist in responsible charge shall determine this need and include the necessary geologic profiles in the report in sufficient detail that a determination can be made by a geologist and geotechnical engineer as to the stability of the site. The plotting of attitudes of true or apparent dip of joints, bedding, etc., is required on the geologic cross section, relative to the direction of the section, to interpret geologic structure relative to analysis and evaluation of stability. Fully descriptive subsurface exploration logs, including graphic logs of all test borings, pits and trenches will be required. Locations of any geophysical traverses and related resultant data shall be included. If during the review it is determined that the submitted data is insufficient to substantiate that the proposed development will be safe for the intended use, a request for specific additional information will be made of the consultants.

D. Subdivisions - Geotechnical Policies and Requirements for Particular Development Concepts

All current applicable governmental regulations and criteria and geologic professional standards and requirements, inclusive of this Manual, must be met relative to the three development concepts or geologic conditions described below. Additionally, criteria and

requirements of Materials Engineering Division Directives GS 001.0, GS 002.0 and GS 086.0 must be followed. A copy of these Directives are in the Appendix (Section III).

1. Subdivision of a Landslide

   By policy, landslides may not be subdivided. Lot lines must be located such that the landslide is located entirely within one lot or the landslide must be stabilized. Hazards from landslides must be evaluated as outlined in this Chapter and must be remediated for proposed building areas on lots within the subdivision. Each lot of a subdivision must have a safe buildable area. The buildable area must be compatible in size to the minimum graded building pad shown on the tentative subdivision map but in no case shall this area be less than 5000 square feet.

   Where an existing landslide affects an adjacent lot in the same subdivision or adjacent properties, Materials Engineering Division Directive GS 086.0 policy must be followed and geotechnical data as outlined in this chapter must be provided. Refer to the current GS 086.0 (dated 1/9/92), "Subdivisions Impacted by Existing Landslides," in the Appendix for details.

2. Ungraded Site Lots

   Division 2 beginning with Section 66410 of the Government Code and Titles 21 and 22 of the Los Angeles County Code imply that every lot must have a buildable site safe for the intended use. In addition, Section 21.24.010 of the County Code requires that access free of geotechnical hazards must be provided for each lot. Any geotechnical hazards, which must be removed in order to provide a building site and access, generally must be mitigated before the tract or parcel map may be recorded.

   Some developments may be subdivided into lots where the specific types and locations of structures have not been determined and/or the developers do not intend to perform any grading or required corrective measures prior to the recordation of the Final Map. These types of developments may be designated as "Ungraded Site Lots" and the subdivision recorded in accordance with criteria and requirements from Materials Engineering Division Directive GS 001.0. Directive 001.0 is in the Appendix (dated 2/13/90).

3. Remainder Parcels

   Whenever a "remainder parcel" is permitted in a subdivision of land geotechnical requirements of Materials Engineering Division Directive GS 002.0 must be completed. A copy of this Directive is in the Appendix (dated 1/31/90).

II. GEOTECHNICAL ENGINEERING (SOILS) REPORT GUIDELINES

INTRODUCTION

Provided below are geotechnical (soils) engineering guidelines for preparing the engineering portion of the geotechnical report. Identified geologic hazards must be analyzed and remedial action recommended. This includes special grading or establishing restricted use areas on subdivision maps or non-buildable areas on single lot developments. The procedures for establishing restricted use areas are described in item B.3(b) of this Chapter. The following are minimum standards for the preparation of various geotechnical engineering reports for compliance with government regulations presented in Part IV of this Manual:

A. General Guidelines for Preparation of Geotechnical Engineering Reports

It is the responsibility of the geotechnical engineer in responsible charge to review the project and determine what items must be covered in the preparation of a geotechnical report. The report must demonstrate that life or limb, property, and public welfare will be safeguarded (Section 102 of Title 26 of the County Code). The county has established a Building Code, Minimum Standards, and policies that must be followed. Provision of the Building Code Section 308(b) requires that the building site must be free of geologic hazards and that the proposed work will not adversely affect off site.

Building Code Section 309 requires that specific unequivocal findings must be stated in the report to show compliance with Section 308(b) of the Building Code.

Section "309" statement is mandatory for all geotechnical reports except for reports prepared for tentative subdivision and environmental impact reports for which the "309" statement is optional. However, there must be sufficient information that demonstrates to the satisfaction of the County Engineer that the sites will be developable and that a statement required by Section 309 can be issued later.

The following are minimum standards/contents for preparation of a geotechnical engineering report:

1. Description of the Site and the Proposed Development

   A geotechnical engineering report must first open with the description of the site to be developed and the description of the proposed development

2. Environmental Conditions and Culture

   The report must describe the current site environment and the effect of the development on it. The current use of the area must also be noted.

3. Geology

   The report should give a general geologic summary as it affects the project development. If necessary, the engineering geology report should be referenced at this time.

4. Subsurface Exploration/Conditions and Design Parameters

   The report should describe the encountered materials during subsurface exploration. Reference should be made to the boring logs, trenches, pits and other information.

   The historical groundwater highs and lows must be presented. A discussion as to the possible effect on the project construction should be presented.

5. Size and topography of the site.

6. Stratigraphy, soils description.

7. Proposed grading/building.

8. Laboratory test results and substantiating data.

9. Slope stability analysis.

10. Conclusions and recommendations.

11. Statement in compliance with Section "309" of the County Building Code.

12. Geotechnical map showing location of subsurface exploration, geology of the site, lot lines, existing and proposed grades, existing and recommended remedial measures and restricted use area.

B. Types of Geotechnical Engineering Reports

1. Environmental Impact Documents

   The purpose of an Environmental Impact Document is to report if potential problems exist and that these problems can be reasonably mitigated or corrected (see Chapters 9 and 28 of this Manual for further information). The geotechnical engineer is responsible for the following items:

   a. Soil descriptions and behavior.

   b. Current and future slope stability and soil erosion problems.

   c. Settlement/heave potential affecting the proposed development, i.e., hydroconsolidation/expansive soils, etc.

   d. Subsurface water conditions and water infiltration potential.

2. Geologic Site Inspection Report

Geotechnical engineering requirements for preparation of a geologic site inspection report is basically the same as those required for a grading and/or building report. (See Chapter 10 for Submittal procedure.)

3. Tentative Subdivision Report

The purpose of a tentative subdivision map and the accompanying reports is to demonstrate that the site is physically suitable for the proposed type of development (see Chapters 29 and 52). Therefore, the geotechnical consultants must present sufficient information so reviewers can determine that the site will be safe for the intended use and that all existing and potential geotechnical hazards will be mitigated. This includes demonstrating satisfactorily that the mitigation measures are feasible for the proposed development, including building pads, utility corridors, and access.

Both the grading plan and road plans have geotechnical engineering requirements. The division of responsibility between the grading plan and the road section of a street to be dedicated to the County is three feet below the road surface. The road section design requirements govern as established by the materials Laboratory as described in Chapter 44. The grading requirements are described in Chapter 30. Once the Tentative Subdivision Map is accepted, there will be conditions of Tentative Map Approval issued. All development must conform to these conditions. (See Chapter 29.)

a. Geologic Hazards

By policy, landslides may not be subdivided. Lot lines must be located such that the landslide or hazard is located entirely within one lot. The hazard must not pose a threat to any building areas on the lot containing the hazard or to the adjacent lots. Each lot must have a site suitable for development as determined by the Department.

Where an existing landslide or other geologic hazard affects an adjacent lot in the same subdivision, it must be removed, stabilized, or otherwise mitigated (see Section III, Figure 1, Geologic Hazard).

Where an existing landslide or geologic hazard affects off-site property (outside of the subdivision) but the existing conditions will not be changed, worsened or otherwise affected by the proposed development, and the hazard does not affect on-site or off-site building areas, the hazard does not have to be mitigated. When it <u>can</u> be demonstrated that the proposed development <u>will not</u> increase the potential for failure, mitigation measures will not be required (see Section III for illustration and further explanation).

(Lot line description must be in accordance with Chapter 29).

b. Restricted Use Area

An unmitigated geologic hazard, and any affected surrounding area, within the proposed subdivision, must be designated as Restricted Use Area by the geotechnical consultants. Restricted Use Areas must be shown on the geotechnical map and the final Subdivision map in accordance with Chapter 29.

A letter must be submitted by the consulting engineering geologist and/or geotechnical engineer identifying any areas to be designated as restricted use areas.

Any development within a "Restricted Use Area" will require a geotechnical report that demonstrates to the satisfaction of the Department of Public Works that the development will be safe for the intended use and will not adversely affect adjacent property. "Restricted Use Areas" can be modified on the recorded subdivision map if it can be demonstrated to the satisfaction of the Department of Public Works that the area removed from the "Restricted Use Area" meets the requirements described above. In that case, the procedures described in Chapters 11 and 12 of this Manual shall be followed.

c. Ungraded Site Lots

In cases when the developer/subdivider does not intend to physically provide a buildable site free of geologic hazards within each lot, "Ungraded Site Lots" may be approved if the geotechnical report(s) demonstrate, by appropriate data and analysis, to the satisfaction of the Department of Public Works that:

i. A buildable site can be developed by future grading, special foundations or both and appropriate mitigative measures.

ii. Access to the site on stable material for vehicles and utilities must be provided by the developer. Stable material is defined for these purposes as material not subject to landslide, slippage or settlement.

iii. All public right-of-way and easements will be on stable material at the time of final map recordation.

iv. There will be a note on the final map stating that geotechnical reports detailing development requirements are available for review both in the Building and Safety/Land Development Division of the Department of Public Works (see Chapter 52) and the Office of the County Recorder.

(Refer to Section III – Appendix GS Memo 001.0)

d. Remainder Parcel

A remainder parcel is that portion of the subdivision which will not be part of the new subdivision. A remainder parcel may be approved if the geotechnical report(s) demonstrate, by appropriate data and analysis, to the satisfaction of the Department of Public Works that:

i. Remainder Parcel may be divided into two or more parcels with buildable sites free of existing or potential geologic/geotechnical hazards.

ii. Access to each lot free of geotechnical hazards may be provided.

A note must be placed on the Final Map referencing the geotechnical reports, detailing development requirements. (See Chapter 29 for more detail).

(Refer to Section III – Appendix GS Memo 002.0)

4. Grading Plan Report

The geotechnical engineering portion of a grading report must contain information regarding geological hazards outlined in the geology portion. The responsible geotechnical engineer must analyze these hazards utilizing geology data, boring log information, topographic maps and laboratory test data. This analysis must be in sufficient detail to demonstrate that the proposed grading will not create any hazards both on and off-site.

A report prepared for grading plan must also include the following geotechnical data when applicable:

a. Geotechnical cross sections utilized in the slope stability calculations including plan locations. All cross sections utilized in slope stability calculations must be drawn to an undistorted scale large enough to measure the individual areas and must show the location of all the geologic features, including bedding planes, fractures, material types, etc., all analyzed potential failure planes, and all recommended buttress, stabilization fill or shear key dimensions.

b. Geotechnical map showing the following:

i. Location of all cut and fill slopes and corresponding dimensions.

ii. Location and size of all recommended remedial measures, such as buttress fill, stability fill, soldier piles, etc.

iii. Layout of the proposed subdrainage system along with a cross-section showing the locations and size of the pipe, perforation, filter and drain material locations and all necessary dimensions (see Chapter 39 of this Manual).

iv. The filter and drain material gradations and geofabrics must be specified and shown on the plan (see Chapter 39 of this Manual).

v. The limits and depths of the loose or unsuitable soils to be removed, replaced, or recompacted, including landslide material to be removed.

vi. The location of any proposed Restricted Use Area and the limits of any landslides, loose natural materials, unsuitable fills, etc., remaining in place.

vii. Special foundation and grading requirements such as corrective measures for soils subject to hydroconsolidation and liquefaction.

viii. Private sewage disposal system if required.

ix. Shoring system.

The geotechnical report for the proposed grading must justify the design with physical data, engineering analyses including calculations, and recommendations. If the grading plan is part of a subdivision development, the geotechnical report(s) must meet all the conditions required for tentative map approval. (See Chapters 29 and 30.)

If the grading plan is for a single lot development, the geotechnical report(s) must demonstrate that the proposed development including all structures, utility right-of-way and driveways will be located on stable material and that the development will be safe for the intended use and will not adversely affect off-site property.

The geotechnical report for the grading plan and the building plan may be combined.

5. Building Plan Report

The geotechnical engineering report for a building plan must cover the same hazards as required for a grading plan. If the proposed building site is in a Restricted Use Area, conditions of development must include special foundation design criteria for the building and appurtenances. Appropriate data must be provided to substantiate that the development complies with Section 308 of the Building Code. It should be noted that some Restricted Use Areas may not be considered developable at the time of the subdivision map approval. Subsequent reports may be submitted modifying or eliminating the restricted use area.

The geotechnical engineering report for a building plan must also cover the following items:

a. Site stability analyses including calculations if necessary.

b. Foundation and retaining wall design recommendations that meet County Code minimum design criteria.

c. A determination as to the anticipated total and differential settlement and mitigating measures required to protect the structures.

d. An analyses of the corrosive properties of the soil and recommendations for the protection of the proposed structures.

e. Foundation setbacks from top and bottom of slopes if less than minimum County Code requirements.

f. Potential for subterranean gases.

g. Private sewage disposal systems if required (see Chapter 24 of this Manual).

If the building plan is part of a subdivision development, the conditions described in the approved geotechnical report(s) must also be met. If the building plan is for a single lot development, the geotechnical reports must demonstrate that the proposed development including all structure, utility right-of-way and driveways will be located on stable material and that the development will be safe for the intended use and will not adversely affect off-site property.

6. In-Grading Report and Final As-Graded Report

An in-grading geotechnical report must be prepared and submitted monthly or at intervals required by the geotechnical engineering review sheet approving the project. This report must be coordinated with the geology in-grading report. The geotechnical engineering report must contain the following information:

a. Fill compaction and shear test data (in compliance with County Code requirements).

b. Location of the compaction and shear test data plotted on a copy of the grading plan.

c. Amount of natural or existing fill removal if unsatisfactory materials have been encountered.

d. Verification by the geotechnical engineer that the fill material shear values met or exceeded design values utilized in the geotechnical report.

e. Items required as part of the conditions of grading plan approval.

f. Any changed subsurface conditions requiring design changes.

g. Analyses demonstrating that, based on any changed design, the site will be safe for the intended use and will be in conformance with State and County Codes.

h. Section "309" Statement.

The final as-graded report must contain all the above data and an as-graded plan showing original and final topographic contour lines. This report must also be coordinated with the geology final report and will be kept as permanent record.

7. Infrastructure Report

Infrastructures that will become property of the County must meet the requirements as presented in the Department's design manuals and Standard Specifications. The Department adopts the latest Standard Specifications for Public Works Construction and then issues its Additions and Amendments. (See Chapter 36 for further details). The following are common infrastructures associated with land development projects:

a. Storm Drain

Private and miscellaneous transfer drains may require geotechnical reports. The requirements regarding the need for a report is presented in Chapter 18. The procedures for submitting reports and obtaining their approval are in Chapters 18 and 20 of this Manual.

Following are the various types of facilities addressed in a storm drain report:

1. Closed conduit/open channel

a. Required Information

The geotechnical engineer shall provide the storm drain designer (civil engineer) with soils information (see Chapter 39 of this Manual) for the storm drain as follows:

i. The relative compaction, type and extent of material which may be encountered.

ii. Excavation problems requiring special equipment and procedures including blasting.

iii. Location and extent of over excavation of unsuitable support materials.

iv. Location, nature, extent and hardness of rock.

v. Slope stability analyses (gross, seismic, surficial, and surface erosion) of all cut, fill and natural slopes whose stability may affect the drain.

vi. The suitability of excavated materials (including bedrock) for use as fill, backfill or bedding.

vii. The soil parameters and loads required to design excavation shoring systems.

viii. The suitability of imported and on-site material for use as fill, backfill and bedding.

ix. The groundwater conditions and necessary subdrain design requirements (see Chapter 39 of this Manual).

x. The presence of substances in groundwater or in the native soils deleterious to concrete, steel, or other construction materials.

xi. Pavement Structure Requirements (see Chapter 44).

xii. Effect on the structure of existing or anticipated loads due to future fill placement or foundation loads placed on existing grade. This includes structural loads, overall settlement and differential settlement.

Specific and detailed recommendations with supporting data shall be presented as described elsewhere in this Chapter. Additional specific problems involving the construction of the drain shall be noted such as the handling of organic materials, peat, diatomaceous soils, water control during construction, jacking or tunneling, trash dumps, special foundations such as piles, etc.

b. Spacing, Location and Depths of Exploratory Borings

Exploratory borings, pits or trenches shall be identified with an individual numbering sequence increasing upstream with each line of the project having its own sequence numbers. This may be waived if borings that are part of a subdivision grading report are utilized in the design of the storm drain.

Exploration holes shall be spaced at intervals not to exceed 600 feet. The intent of this spacing is that no part of the storm drain project shall be more than 300 feet from a boring unless the geotechnical engineer determines that closer spacing is required. This spacing does not apply to tunnel or jacking construction. For these types of construction, spacing will be determined by the Geotechnical

Engineering Section upon consultation with the geotechnical consultants on an individual project basis.

One boring shall be located at the downstream end of a project line or at its confluence with another line of the project. The interval between exploratory holes shall be reduced as necessary so as to locate these holes in areas in which topography or other evidence indicates a probability of soil conditions differing from those of surrounding areas, or so as to locate borings adjacent to existing structures where special construction measures may be necessary or in areas where future fill will be placed or bedrock is encountered.

For a line less than 300 feet in length (except when a project's outlet is on the beach, lake, channel, swamp, etc.) only one boring will be required if, in the geotechnical consultant's opinion, this boring will furnish sufficient design information. The one boring should be placed approximately equidistant from each end of the line, rather at either end.

A boring shall be placed in each sump or depression along the alignment of the project.

When a project does not outlet into an improved channel, a boring shall be located at both the downstream and upstream ends of the project reach within the beach, reservoir, stream etc., area. In order to portray actual subsurface conditions, one or more additional borings will be required to the satisfaction of the Geotechnical Engineering Section between these two borings if strata continuity between the borings cannot be determined. In addition, the maximum and minimum profiles of any submerged area must be considered in the design.

In order that the stability of the storm drain foundation may be determined, borings shall be drilled to the following depths:

i. Where no groundwater is encountered, borings shall be carried to a depth of at least five feet below the proposed storm drain invert.

ii. Where groundwater is encountered in the vicinity of the subgrade, or above, borings shall be carried to a depth of ten feet or twice the structure width, whichever is greater, below the proposed storm drain invert.

iii. If unsuitable material for support of the drain is encountered near the subgrade, test holes shall be carried through to the bottom of the unsuitable material.

iv. Where the construction will involve structural foundations such as footing or piles, the borings shall be carried sufficiently below the footing subgrade or pile tip elevation to furnish bearing capacity and settlement information for proper design of the foundation.

v. In areas where fill is to be placed, the borings shall be continued a sufficient depth below invert to allow determination of probable settlement.

vi. In the event a project is redesigned subsequent to the soil consultant's report so that the subgrade is lowered or the alignment is changed, additional borings shall be drilled as necessary to conform to the above requirements for those portions of the alignments which have been redesigned.

2. Debris Basins

For debris basins with slopes steeper than 3:1 gradient and designed with outlet structures, slope stability analyses will be required assuming a rapid drawdown condition.

Geotechnical engineers must also recommend procedures for removing debris in a safe manner. Geotechnical engineers must work very closely with civil engineers performing the design tasks. Refer to Chapter 41 of this Manual.

3. Detention Basins

Geotechnical engineers are responsible for making recommendations regarding the effect of erosion on the side of the basin and also to determine the effect of the ponded water infiltrating from the basin. Slope stability and analysis are often required. For further details, refer to Chapter 40 of this Manual.

4. Retention Basins

As described in Chapter 43 of this Manual, geotechnical engineers must provide the requirements as noted in Item c, above, along with determination that the infiltration rate will meet County design standards as described in that chapter.

b. Sewer Facilities
(See Chapter 47)

c. Water Distribution Facilities
(See Chapter 48)

d. Bridge Foundations

A bridge foundation report requires the following geotechnical engineering considerations:

1. Design criteria for the pier and the abutment foundations.

2. Abutment fill specifications.

3. Foundations design for the wing walls.

To achieve the most economical and efficient design the geotechnical engineering must coordinate his work with the engineering geologist in regard to geologic conditions; with the hydraulic engineer in regards to determining the amount of potential scour around the foundations, and with the bridge structural engineer in establishing the design requirements that must be met. Future channel and transportation modifications must be obtained from the Planning Division so that the proposed structure can be modified easily in the future to meet the anticipated requirement.

e. Dams

The requirements for the design of dams and their maintenance are described in Chapter 38. Geotechnical engineers are responsible for determining that the subsurface materials will support the proposed dam structure and that seepage through the dam, around and beneath the dam, will not prevent the dam from performing as intended. Also, they are responsible for the stability of earth and rock fill embankments.

f. Road Grading

Geotechnical engineers are responsible for establishing the stability of all proposed cuts and fill slopes.

C. Data and Description for Detailed Geotechnical Engineering Report

1. Laboratory Test Requirements:

The following items represent the minimum geotechnical engineering data that must be presented in all geotechnical engineering reports when applicable:

a. Shear Parameters

Shear parameters obtained through laboratory testing are the maximum values allowed in the analyses permitted in this Manual. For all analyses based on long term static resistance, the test result must be based on complete sample saturation and residual or ultimate values. For all analyses based on seismic loadings, the test value must be based on complete sample saturation and peak values may be used. For all analyses based on temporary resistance, not involving public health and safety under the requirements of Title 26 of the County Code, the test value may be based on the anticipated greatest field moisture condition during the period of construction. Laboratory tests results may not be acceptable for dense clay materials, landslide gouge, and bedding planes. Shear values assigned to these materials are to be based on past or current reverse slope stability analyses of active landslides in similar materials. Laboratory test results of residual reshear values can only serve as an indicator of strength loss and are not necessarily indicative of actual values. The assigned shear values must be justified with both laboratory test data and geologic descriptions and past performance of similar materials.

b. Moisture–Density Data

Unit weight and corresponding moisture content of each type of material encountered must be presented.

c. Consolidation or Compression Tests

Consolidation or compression tests are used to determine settlement behavior of a soil. This also includes hydroconsolidation. The sample is initially compressed at its field moisture content. Water is added to saturate the sample at a point where the anticipated future load is reached. The test continues under saturated conditions.

d. Compaction Test

Compaction tests are performed to determine maximum dry density and optimum moisture content of various materials and also to determine the relative compaction of various materials.

e. Sand Equivalent Test

The sand equivalent test is performed as a quick method to determine if a material is suitable for passing water through it and to compress when saturated. Usually backfill and bedding with a Sand Equivalent value exceeding 20 is satisfactory for jetting. Aggregates must have a Sand Equivalent Value exceeding 30.

f. Permeability Test

Either a constant head or falling head must be specified depending upon the anticipated subsurface conditions after development.

g. Sieve and Hydrometer Analysis

Sieve and hydrometer analysis are performed for soil identification

h. Chemical Test

Chemical tests are performed to address the presence of chemicals deleterious to construction materials and utility lines.

2. Reverse Slope Stability Analysis

A reverse slope stability analysis may be the only method to determine the shear values of an active landslide. The theory assumes that the safety factor is 1.0 just as the landslide mass begins to activate. The slope stability calculations are based on the landslide mass in its original position. The calculated shear values become the design values used in the gross stability analysis. The responsible engineer is warned that any future calculations must be based on the identical method used to determine the design values.

3. Engineering Analysis

a. Slope Stability Analysis

Slope stability analysis including the establishment of design criteria and performing calculations will generally be required for all cut, fill and natural slopes when the slope angle is steeper than 2 horizontal to 1 vertical (see Section III, "Minimum Standards for Slope Stability Analysis." Analysis may be required for slopes of a flatter angle than 2 horizontal to 1 vertical if there is evidence that the slope may not meet County minimum standards.

The data to be utilized in the slope stability analysis shall come from detailed site plans, detailed field descriptions, on site exploration data, and laboratory test data. It is the responsibility of the geotechnical engineer to determine the weakest potential failure surface based on the above factors. In performing any analysis, the worst possible conditions must be utilized.

1. Gross Stability

The County has established minimum safety factors, based on the use of the method of slices or Bishop's Simplified method. Other formulas such as those suggested by Morganstern and Price and Spencer are not acceptable at this time because they utilize considerable internal forces resulting in very high safety factors.

Taylor's method and Jambu charts are acceptable if they meet the author's intended criteria.

2. Surficial Stability

Surficial stability is based on the formula defined in "Section III, Minimum Standards for Slope Stability Analysis." Slopes flatter than 2 horizontal to 1 vertical should be investigated if the soil cohesion is less than 250 psf.

3. Surface Erosion Resistance

All slopes must be designed to minimize erosion by using cohesive soils or other erosion prevention measures, as described in "Section III, Minimum Standards for Slope Stability Analysis".

b. Landslide Stabilization

For the purpose of this Manual, landslide stabilization includes the stabilization of existing and potential landslides. It is required that a determination be made regarding the stability of ancient, inactive, active and potential landslides.

If landslides that do not meet the County minimum standards are to remain, it must be demonstrated that they will not adversely affect the proposed development. If the hazardous areas are part of a subdivision development, the entire areas affected by the hazard must be designated as "Restricted Use Areas." If the development is not part of a subdivision, it must be shown that the proposed development and off-site property will not be adversely affected by the landslide hazard.

There are 3 types of landslides that often require stabilization as follows:

1. Rock Falls

Rock falls consist of large rocks that have periodically broken off the face of a cliff and rolled down the slope landing on the flat areas below. The various methods for stabilizations of rock falls are as follows:

i. Entrapment and Removal

A large pit may be constructed at the bottom of the slope in which the rock falls into the pit. The pit is then periodically cleared by a responsible party, usually a government agency.

ii. Rock Bolt Stabilization

Rock bolts can be used to bolt the large pieces of rock into the stable part of the slope to prevent further deterioration of the slope. It must be shown by geotechnical engineers that there will be sufficient rock bolting so that the rock mass will have a safety factor meeting County minimum standards for slope stability analysis.

iii. Wire Mesh Failure Control

Using wire mesh nets secured to the face of the slope allows rock to fall in a confined area without posing a hazard to adjacent areas. The debris remains confined at the bottom of the slope and is periodically removed by a responsible party, usually a governmental agency.

iv. Letting the Slope Achieve Its Angle of Repose

Setbacks at the top and the toe of the slope can be established by the Geotechnical Engineers along with measures to allow the slope to fail until it reaches a stable condition. Structures are usually constructed beyond the area of anticipated rockfall.

2. Localized Landslides

Localized landslides consist of the peeling off of small pieces of a steep slope. Usually these types of slopes consist of many bedding planes and fracture planes that are discontinuous, making it very difficult to calculate a safety factor. The method of stabilization usually consists of placing a stabilization fill with a key depth of no less than 2 feet and the width no less than 8 feet at the base and 4 feet at the top.

3. Massive Landslides

Massive landslides consist of a landslide that is either along a slide plane, bedding plane, fracture plane, etc., or is a rotation type of failure that covers a very large area. Stabilization methods may consist of the following:

i. Buttress Fills

A buttress fill designed to provide slope stability is placed at the toe of the landslide and must be analyzed for the following failure planes: a) horizontally through the buttress fill, b) below the buttress fill, and c) through the buttress fill in a passive failure mode (see Figure 1 in Section III). For

unusual configurations other potential failure planes may require analyses.

ii. Shear Keys

A shear key designed to provide slope stability is analyzed like a buttress fill except that the shear key is placed within the slide. Slope stability analysis includes a potential failure horizontally or in passive mode through the shear key and beneath the shear key as required for a buttress fill in Item "i" above. The shear key must be self supporting and comply with County minimum standards.

iii. Shear Pins and Soil Nailing

Shear pins and soil nails consist of various types of piles driven through the potential failure plane to provide additional shear resistance. These piles must be deep enough to transfer the shear loads exerted by the landslide on the piles to the stable bedrock below. The spacing and the location of the shear pins or soil nails will depend upon the amount of shear resistance required by the slope stability analysis, so that the slope will meet County's minimum safety factor standards.

c. Soils Subject to Compression and Hydroconsolidation

Soils subject to compression include soft clays with very high moisture contents, which when exposed to additional loads such as, structures or fills, will experience high settlement (vertical movements) as the water is expended from the soil structure. Also, peat and other highly organic soils fall into this soil category because of the potential for large settlements as the organic materials decompose and compress. This settlement may be long term and shall be considered in the soils report.

Soils subject to hydroconsolidation are normally loosely deposited silty sands (SM) and silts (ML) that when subject to increased loading and/or become saturated, experience consolidation greater than 2%.

Based on environmental concerns, it is County policy that the consultants must justify the construction of any structure that will have differential settlement in excess of ½ inch vertical movement over a horizontal distance of 30 feet. In such cases, the consultants must provide for protection of the structure against excessive cracking, provide for adequate drainage of the utilities that require gravity drainage during and after the settlement and must design all subsurface utilities to withstand distortion and deflection due to differential settlement through flexible joints and must be located so the underground utilities can be exposed if necessary, for periodic repairs.

A "Restricted Use Area" must be established for all areas within a subdivision development not meeting the above criteria.

In areas in which it is suspected that the settlement may exceed County minimum standards described above, it will be the responsibility of the consultant geotechnical engineer to obtain sufficient data and make findings and recommendations to mitigate the problem.

d. Soils Subject to Liquefaction and/or Lateral Spreading

Soil liquefaction or lateral spreading (conditions of occurrence are considered to be the same) is the sudden decrease of the shearing resistance of a cohesionless soil. It occurs following collapse of the soil structure under shock or other type of strain caused by stress and is associated with a temporary increase in pore fluid pressure which temporarily causes the solid material to behave as a liquid. This can occur during a seismic event or high vibrations during construction.

There must be four conditions for soil liquefaction to occur:

1. The soil must be completely saturated.

2. The soil must be in a loose state (non-cemented) and consist mostly of silts and fine sands. (Coarse sands and gravels may liquefy if subjected to extremely intense shocks).

3. The soil must be subjected to prolonged shocks to compress the saturated material such as may be provided by an earthquake or a pile driving operation.

4. The pore water pressure built up during the shock must exceed the intergranular pressure within the soil mass which is based on overburden soil weight.

   The geotechnical report must consider liquefaction potential of the foundation soils and make recommendations to protect the public during such an event.

e. Expansive Soil and Rock

Many clay soils and shales expand upon wetting and shrink when dried. The expansion can result in a volume increase in the wetted soil many times larger than in the dry soil. These changes in soil volume cause major structural damage if not considered in the design.

Geotechnical Reports must provide test results for expansive soils by the Expansion Index Test Method as defined in Sections 2904 and 2907 of Title 26 of the County Code. The Geotechnical Engineer must explain the meaning of the test and in areas subject to severe soil and/or rock movement, recommend specific foundation design criteria, notably, the

minimum depth of footings and recommend the amount of reinforcement in those footings. Minimum Code design values for sites subject to extreme distortion are not acceptable.

f. Sulfide-Sulfate, Chlorides

1. Sulfide-Sulfate

Sulfide minerals are usually encountered in unweathered bedrock. When exposed to air and moisture, sulfides will undergo a chemical reaction to become sulfates which can create other problems as described below. During this process the sulfide minerals may expand as much as eight times. Often this reaction is described as being soil expansion described in Item 6 above. However, the standard expansive soil test will not detect this potential chemical reaction. At the present time, there is little known about the rate of the chemical reaction. In some areas, the chemical reaction is very rapid occurring within a few days after exposure. In other areas, this reaction is very slow affecting structures years after construction. Sulfide minerals have been encountered in the Castaic Formation of the Basin Range in the Castaic area and in the Santa Monica Mountains, from Topanga to Encino.

Certain sulfate minerals present in the soil, rock mass or groundwater have a detrimental effect on concrete. Most prominent of these are sulfates of sodium, magnesium and calcium. These sulfates react chemically with the hydrated lime and calcium aluminate of the hardened cement paste to form calcium sulfate and calcium sulfo-aluminate.

Disintegration of the concrete is due to a combination of chemical and physical forces. The effect of such an attack is minor in dense, impermeable concrete on relative dry natural materials, but will result in disintegration of high water-cement ratio, permeable concrete bearing on saturated highly mineralized fill or natural materials.

At present, the following areas in Los Angeles County have been identified as having soils which contain sulfate minerals:

i. Santa Monica Mountains
ii. Diamond Bar Area
iii. Newhall Area
iv. Castaic Area
v. Northern portion of Antelope Valley
vi. Parts of Calabasas
vii. Lakewood, Long Beach, Cerritos, areas along the San Gabriel River
viii. Petroleum producing areas

ix. Areas subject to seawater

The Geotechnical Engineering report must consider and test for sulfide-sulfate minerals in the soil, rock mass and/or groundwater. Recommendations in the Geotechnical Engineering report must include mitigating measures such as either the removal of the sulfide and sulfate materials down to a depth that they will not influence the proposed structure, treatment to remove the sulfides and/or design of foundations to resist the effect of the sulfides.

2. Chlorides

Large concentrations of chlorides will adversely affect any ferrous materials, such as, iron and steel. When chloride concentration exceeds 18,000 parts per million, mitigation measures must be taken to protect any steel reinforcing within concrete and any steel pipe or cast iron that serve the development. Mitigating measures generally consist of cathodic protection, isolation such as utilizing very dense cement mixes around vulnerable material or plastic wrap to prevent moisture contact between the soil and the material under protection.

g. Fills and Backfills

All certified fills and backfills must meet the requirements in Section 7016(d) of Title 26 of the County Code. Whenever the Ash Content percentage as performed in accordance with ASTM D2974-87, Method C or D exceeds two (2) percent, the material shall be considered detrimental in accordance with the County Code and will not be acceptable. The above standard shall also apply to projects being constructed under the requirements of the Standard Specifications for Public Works Construction. When the Ash Content exceeds two (2) percent, it shall be considered "topsoil" as defined in Section 300-2.7 of those specifications and may be used only for the purpose of backfilling areas to be planted.

h. Foundation Design Criteria

Foundation design criteria and/or recommendations must be included in the Geotechnical Engineering Report and supported by substantiating data. Possible adverse movement of the foundation by either vertical or lateral movement must be considered. The recommended foundation type, installation conditions, and allowable loads must be provided. The requirements in Chapter 29 and Section 2308(d) of Title 26 of the County Code shall be met.

1. Shallow Foundations

The soil design bearing pressure and lateral resistance capacities based on test data must be specified and conditions described

which would require deviating from the maximum design Building Code values. In marginal sites with variable soils or where standard foundations cannot be utilized, the geotechnical engineering consultant must make specific design recommendations. During construction the geotechnical engineering consultant must inspect and approve the foundation depths before reinforcing steel and concrete is placed in areas where subsurface materials might be unsuitable for bearing.

2. Deep Foundations

Foundations, such as piles or caissons must be designed considering the capabilities of the supporting materials based on laboratory test results and geological data in which both end bearing and/or skin friction resistance is considered. These types of foundations are usually installed through surface soils with low bearing capacity that may impose high lateral loads on slopes. Soil creep must be considered when determining the foundation design loads.

Pile tip elevations must be clearly established by the Geotechnical Engineer. The design criteria must meet or exceed the minimum standards or criteria described in this Manual.

3. Setbacks from Slopes

Foundations on or adjacent to slopes may be placed so that setback dimensions agree with the Section 2907.1 of Title 26 of the County Code (See Chapter 30 of this Manual). Reductions in these minimum setback requirements shall be substantiated to the satisfaction of the Building Official by the soils report data. This shall include an analysis demonstrating that structures will not be endangered and that minor/major slope failures are easily accessible and repairable.

i. Small Dam Design

A geotechnical report that justifies the dam design and installation is required (see Chapter 38). Slope stability analysis will be required for all earth fill and rock fill dams. The slope stability analysis must consider the effects due to rapid draw down of the water on the upstream face of the dam. In addition, the report must consider seepage through the dam and abutments. Detailed subdrain system design as described in Chapter 39 of this Manual will be required. Flow nets may be required to show that excessive seepage forces will not occur.

j. Shoring System Design Criteria

Shoring systems are usually temporary supporting structures used to retain earth until the facility is completed. Shoring design parameters are

used to determine the loads the retained soil will impose on the shoring units and must be provided by the geotechnical consultant.

All shoring shall be designed in accordance with the following criteria:

1. Soil peak shear parameters may be utilized to compute the shoring loads.

2. The requirements of CAL-OSHA must be followed.

   If an excavation affects the stability of existing structures and/or off-site property, shoring must be designed and installed to eliminate the hazardous condition. The design must be in accordance with all standards in this Manual and must consider all factors such as slope stability, settlement, creep, etc. The soil strength parameters must be in accordance with the applicable criteria and shall not exceed the test values noted in the geotechnical report.

   The following minimum information regarding the soil parameters and loads required to design excavation shoring systems shall be furnished for the soils encountered during the subsurface investigation:

   1. The coefficients of active earth pressure (K_a) and passive earth pressure (K_p).

   2. The lateral earth pressure distribution above the subgrade elevation as determined by the Rankine Theory.

   3. The location and magnitude of any external load(s) that may affect the design and/or performance of the shoring systems.

      All trench shoring is subject to Section 6705 of the California Labor Code which is the State Construction Safety Orders. These regulations can be obtained from CAL-OSHA.

      All shoring for structures must meet the requirements of Title 26 of the County Code (Building Code).

k. Retaining Wall Design

All proposed retaining walls must be addressed in the Geotechnical Report and must meet the requirements of Chapter 29 and Section 2308(b) of Title 26 of the County Code.

These data shall include recommendations for:

1. Design soil pressures (bearing, passive, active, at rest)

2. Coefficient of sliding friction

3. Subdrainage Design (see Chapter 39 of this Manual)

4. Surface drainage requirements (see Chapter 30 of this Manual)

5. Necessity for preventing seepage through the wall (Structures)

6. Amount of freeboard to prevent sloughing over the wall

In arriving at above design recommendations the report must note the following site conditions:

1. Wall Restraining Conditions (Deformation Conditions)

2. Surcharge Loads due to sloping backfill, foundation loads, etc.

3. Backfill placement requirements including temporary equipment impact loads.

4. Foundation Slope Setbacks

5. Shear values of the materials to be supported.

6. Shear values of the material that will support the retaining structure.

7. Effect of adverse slopes on the foundations.

D. Policy Regarding Geotechnical Repairs

For the purpose of this Manual repairs are defined as corrective work performed to protect existing structures such as buildings, roads, utilities, etc. Whenever a repair is required, it shall be the goal of the designer to meet all the minimum standards in this Manual for new construction as required in the Codes.

However, some Code requirements may be waived if it can be demonstrated to the satisfaction of the Building Official that:

1. Minimum standards cannot be met.

2. The overall hazard will be reduced or lessened and that the endangered structures can continue to perform as intended.

3. Off-site property will not be adversely affected.

4. Section "309" statement must be provided for the repaired portion of the project. When applicable Code requirements which were waived must be noted by the consultants in their reports.

E. Subsurface Exploration and Laboratory Testing

All subsurface exploration programs must first consider the need for geological information. If geological exploration is required, the subsurface exploration program must be coordinated and both the engineering geologist and geotechnical engineer must agree as to the extent of the program. If geological information is not required, the geotechnical engineer must determine the exploration needed to determine that the development will be safe in accordance with the various Codes. The geotechnical engineer must be in "responsible charge of work."

Sufficient laboratory test results must be provided to substantiate all findings and recommendations.

F. Geotechnical Engineering Report Organization

A complete geotechnical engineering report is required to ensure that all geotechnical engineering factors affecting site stability have been considered including temporary conditions during construction. The geotechnical engineering report must contain recommendations and all the data, data analysis including calculations that justify these recommendations, including references.

The report along with all field and laboratory information shall be submitted on 8½-by-11-inch sheets and shall be presented in such a manner that future reproduction can be made. Plan and maps greater than 8-½-by-11-inches shall be folded to this size and also presented in such a manner that future reproduction can be made.

The geotechnical engineering report shall be signed by a qualified registered engineer and stamped with his/her registration seal including the expiration date of his/her license.

G. Geotechnical Standards

1. Minimum Standards for Slope Stability Analysis

The following minimum standards for slope stability analysis will generally be required for cut slopes steeper than 2:1 (Section 7015) and fill slopes steeper than 2:1 (Section 7016). A more detailed field and laboratory investigation combined with a seismic stability analysis utilizing such information maybe required where unusual soils or geologic conditions exist.

The requirements include analyses for gross stability (under static and seismic conditions) and surficial stability of slopes, Geotechnical Report, and Verification of Design Parameters as follows:

a. Gross Stability

1. Separate calculations shall be performed for static and seismic conditions.

2. The pseudostatic slope stability analyses shall be the minimum seismic analysis accepted for design.

3. Conventional static methods of slope stability analysis based upon principles of mechanics may be used to analyze the stability of slopes under both static and pseudostatic loads.

4. The minimum acceptable factor of safety for shear strength is 1.5 for static loads and 1.1 or pseudostatic loads. The factor of safety for strength is defined as the ratio of the shearing resistance force to the actual driving force acting along the potential failure surface.

5. The static analyses shall include the effect of expected maximum moisture conditions, soil weight and seepage or pore pressure where applicable. Saturated conditions shall be utilized unless it can be shown that other moisture contents will represent the worst possible conditions for the project.

6. Pseudostatic analysis shall include the effect of static loads combined with a horizontal inertial force acting out of the slope and through the center of gravity of the potential sliding mass.

7. A minimum pseudostatic horizontal inertial force equal to 0.15 times the total weight of the potential sliding mass shall be used. This minimum lateral design value should be increased where, in the opinion of the private consultant(s), subsurface conditions or the proximity of active faults warrants the use of higher values.

8. The critical potential failure surface used in the analysis may be composed of circles, planes or other shapes considered to yield the minimum factor of safety against sliding and most appropriate to the soil and geologic site conditions. In cohesive soils, a vertical tension crack extending down from the top of the slope to the potential failure surface may be used to limit the lateral extent of the potential sliding mass.

9. The critical potential failure surface having the lowest factor of safety on strength shall be sought for the static case. This same static surface and sliding mass may be assumed to be critical for pseudostatic case.

10. Soil properties, including unit weight and strength parameters (cohesion and friction angle), may be based on conventional field and laboratory tests and/or field performance. Where appropriate, laboratory tests for long-term residual strengths shall be performed. Shear resistance along bedding planes is normally arrived at by estimation of bedding-strength values of the weakest unsupported plane. It is expected that the engineer will use considerable judgement in the selection of shear tests and

interpretation of the results in arriving at strength characteristics fitting the present and anticipated future slope conditions. Strength parameters used in static analysis shall not exceed residual (ultimate) values. Dynamic strengths used in a pseudostatic analysis shall not exceed peak point static strengths unless supported by dynamic test results or other convincing physical evidence.

11. In the design of slope support, bedding planes flatter than 12 degrees from the horizontal normally need not be considered in a pseudostatic analysis.

b. Surficial Stability

1. Calculations shall be performed for surficial stability of slopes under saturated conditions. Calculations shall be based on analysis procedures for stability of an infinite slope seepage parallel to the slope surface or other failure mode which would yield the minimum factor of safety against failure.

Reference: Slope Stability Report, by Slope Stability Committee, County of Orange, California, Department of Building and Safety

2. The minimum acceptable vertical depth of soil saturation shall be four (4) feet.

3. The minimum factor of safety for surficial stability shall be 1.50.

4. Shear strength parameters (cohesion and friction angle) used in surficial slope stability analysis must be representative of the surficial material and shall not exceed residual (ultimate) values.

c. Surface Erosion Resistance

The consultant must evaluate the erosive properties of the soil and make appropriate recommendations to eliminate slope failure due to erosion caused by natural watering and irrigation of the slope. Soils with an effective saturated soil cohesion of less than 250 pounds per square foot are considered susceptible to surface erosion.

d. Geotechnical Report

1. Each slope stability analysis shall be accompanied by a geotechnical report including a summary of the results of field exploration and laboratory investigation. This report should at least include the following items:

a. Boring logs and plan locations relative to the proposed grading.

b. Geotechnical description of soil and/or rock encountered in the proposed cut slope and/or expected to be used in the proposed fill. Soil description should include engineering classification with moisture and density or stiffness. Rock description should include, but not be limited to: geologic assessment of hardness, degree of weathering, strata thickness, clay surfaces and oriented planar discontinuities such as strike and dip of bedding, joint spacing, joint thickness, fracture and fault surfaces.

c. Groundwater conditions encountered at the site as well as anticipated future groundwater conditions that may affect the design.

d. Recommendations regarding (i) provisions for reducing water infiltration into fill slopes from the surface and from adjacent natural in-place materials, and (ii) a subdrainage system to convey any excess free draining water from fill slopes without causing any damage.

e. Description of laboratory tests performed with summary of laboratory test results. Both the moisture and drainage conditions during any shear strength tests shall be clearly defined.

f. Shear strength parameters for design which are based on field experience shall be explained.

2. A supplementary report verifying design parameters will be required as set forth below:

a. All design parameters shall be verified during construction. This includes applicable geologic structures, such as bedding attitudes, joint orientation and existing shear conditions. If any significant variation from the design values is discovered, revised calculations shall be made and submitted.

b. Shear strength parameters used as a basis for design shall be verified by tests prior to completion of rough grading.

The number of shear tests taken will depend upon the variation of the fill materials on the slope surface. Where the soil is reasonably consistent, at least one shear test shall be made for each three thousand (3,000) square feet of slope surface area or portion thereof. Where soils vary, additional tests may be required by the soil engineer or Building Official.

2. Buttress Fill Design for Slope Stabilization

Buttress fills for slope stabilization must be designed for worst case scenario, see Figure 1, for possible potential failure planes used in analysis.

3. Subdivisions Impacted by Existing Landslides

The following guidelines and requirements are for the geotechnical review of subdivisions impacted by landslides, with regards to property boundaries and safe building areas. Generally, existing landslides are considered a hazard unless it is demonstrated by subsurface exploration, rock and soil testing, and stability analysis that the landslide has appropriate safety factors.

An existing landslide which is activated could adversely impact off-site property (outside of the subdivision) and does not have to be mitigated if the existing conditions will not be changed, worsened, or otherwise be affected by the proposed development, and the hazard does not pose a threat to on-site building areas in the subdivision. It must be clearly demonstrated that the proposed development will not increase the potential for failure of the hazardous conditions, otherwise, mitigation measures will be required.

An unmitigated landslide hazard and the surrounding affected area inside the proposed subdivision, will have to be designated as a Restricted Use Area.

(Refer to Section III – Appendix GS Memo 086.0)

SECTION III

CHAPTER 49 APPENDIX

1. ENGINEERING GEOLOGY REPORT GUIDELINES CALIFORNIA DIVISION OF MINES AND GEOLOGY NOTES 42, 43, 44, 46 AND 49 AND MISCELLANEOUS FORMS, CHECK LISTS, ETC.

2. MATERIALS ENGINEERING DIVISION DIRECTIVES GS 001.0, GS 002.0 AND GS 086.0

3. BUTTRESS FILL DESIGN, FIGURE 1

CALIFORNIA DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY

DMG NOTE 42

GUIDELINES TO GEOLOGIC/SEISMIC REPORTS

The following guidelines are taken from "Geology and earthquake hazards: Planners guide to the seismic safety element" prepared by Grading Codes Advisory Board and Building Code Committee of the Southern California Section, Association of Engineering Geologists, July, 1973. They are reprinted here courtesy of the Association of Engineering Geologists.

I. *Introduction*

This is a suggested guide or format for the seismic section of engineering geologic reports. These reports may be prepared for projects ranging in size from a single lot to a master plan for large acreage, in scope from a single family residence to large engineered structures, and from sites located on an active fault to sites a substantial distance from the nearest known active fault. Because of this wide variation, the order, format, and scope should be flexible and tailored to the seismic and geologic conditions, and intended land use. The following suggested format is intended to be relatively complete, and not all items would be applicable to small projects or low risk sites. In addition, some items would be covered in separate reports by soil engineers, seismologists, or structural engineers.

II. *The Investigation*

A. *Regional Review*

A review of the seismic or earthquake history of the region should establish the relationship of the site to known faults and epicenters. This would be based primarily on review of existing maps and technical literature and would include:

1. Major earthquakes during historic time and epicenter locations and magnitudes, near the site.

2. Location of any major or regional fault traces affecting the site being investigated, and a discussion of the tectonic mechanics and other relationships of significance to the proposed construction.

B. *Site Investigation*

A review of the geologic conditions at or near the site that might indicate recent fault or seismic activity. The degree of detail of the study should be compatible with the type of development and geologic complexity. The investigation should include the following:

1. Location and chronology of local faults and the amount and type of displacement estimated from historic records and stratigraphic relationships. Features normally related to activity such as sag ponds, alignment of springs, offset bedding, disrupted drainage systems, offset ridges, faceted spurs, dissected alluvial fans, scarps, alignment of landslides, and vegetation patterns, to name a few, should be shown on the geologic map and discussed in the report.

2. Locations and chronology of other earthquake induced features caused by lurching, settlement, liquefaction, etc. Evidence of these features should be included with the following:
   a. Map showing location relative to proposed construction.
   b. Description of the features as to length, width and depth of disturbed zone.
   c. Estimation of the amount of disturbance relative to bedrock and surficial materials.

3. Distribution, depth, thickness and nature of the various unconsolidated earth materials, including ground water, which may affect the seismic response and damage potential at the site, should be adequately described.

C. *Methods of Site Investigation*

1. Surface investigation

   a. Geologic mapping.
   b. Study of aerial photographs.
   c. Review of local ground water data such as water level fluctuation, ground water barriers or anomalies indicating possible faults.

2. Subsurface investigation

   a. Trenching across any known active faults and suspicious zones to determine location and recency of movement, width of disturbance, physical condition of fault zone materials, type of displacement, and geometry.

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b. Exploratory borings to determine depth of unconsolidated materials and ground water, and to verify fault–plane geometry. In conjunction with the soil engineering studies, obtain samples of soil and bedrock material for laboratory testing.
c. Geophysical surveys which may indicate types of materials and their physical properties, ground water conditions, and fault displacements.

III. *Conclusions and Recommendations*

At the completion of the data accumulating phase of the study, all of the pertinent information is utilized in forming conclusions of potential hazard relative to the intended land use or development. Many of these conclusions will be revealed in conjunction with the soil engineering study.

A. *Surface Rupture Along Faults*

1. Age, type of surface displacement, and amount of reasonable anticipated future displacements of any faults within or immediately adjacent to the site.

2. Definition of any areas of high risk.

3. Recommended building restrictions or use–limitations within any designated high risk area.

B. *Secondary Ground Effects*

1. Estimated magnitude and distance of all relevant earthquakes.

2. Lurching and shallow ground rupture.

3. Liquefaction of sediments and soils.

4. Settlement of soils.

5. Potential for earthquake-induced landslide.

IV. *Presentation of Data*

Visual aids are desirable in depicting the data and may include:

A. *General data*

1. Geologic map of regional and/or local faults.

2. Map(s) of earthquake epicenters.

3. Fault strain and/or creep map.

B. *Local or site data*

1. Geologic map.

2. Geologic cross–sections illustrating displacement and/or rupture.

3. Local fault pattern and mechanics relative to existing and proposed ground surface.

4. Geophysical survey data.

5. Logs of exploratory trenches and borings.

V. *Other Essential Data*

A. *Sources of data*

1. Reference material listed in bibliography.

2. Maps and other source data referenced.

3. Compiled data, maps, plates included or referenced.

B. *Vital support data*

1. Maximum credible earthquake.

2. Maximum probable earthquake.

3. Maximum expected bedrock acceleration.

C. *Signature and license number of geologist registered in California*

5/86

CALIFORNIA DIVISION OF
MINES AND GEOLOGY

CDMG
NOTE 43

RECOMMENDED GUIDELINES FOR DETERMINING THE MAXIMUM CREDIBLE AND THE MAXIMUM PROBABLE EARTHQUAKES

The following guidelines were suggested by the Geotechnical Subcommittee of the State Building Safety Board on 3 February 1975 to assist those involved in the preparation of geologic/seismic reports as required by regulations of the California Administrative Code, Title 17, Chapter 8, Safety of Construction of Hospitals. CDMG is currently using these guidelines when reviewing geologic/seismic reports.

Maximum credible earthquake

The maximum credible earthquake is the maximum earthquake that appears capable of occurring under the presently known tectonic framework. It is a rational and believable event that is in accord with all known geologic and seismologic facts. In determining the maximum credible earthquake, little regard is given to its probability of occurrence, except that its likelihood of occurring is great enough to be of concern. It is conceivable that the maximum credible earthquake might be approached more frequently in one geologic environment than in another.

The following should be considered when deriving the maximum credible earthquake:

(a) The seismic history of the vicinity and the geologic province;
(b) the length of the significant fault or faults which can affect the site within a radius of 100 kilometers; (See CDMG Preliminary Report 13);
(c) the type(s) of faults involved;
(d) the tectonic and/or structural history;
(e) the tectonic and/or structural pattern or regional setting (geologic framework);
(f) the time factor shall not be a parameter.

Maximum probable earthquake (functional-basis earthquake)

The maximum probable earthquake is the maximum earthquake that is likely to occur during a 100-year interval. It is to be regarded as a probable occurrence, not as an assured event that will occur at a specific time.

The following should be considered when deriving the "functional-basis earthquake":

(a) The regional seismicity, considering the known past seismic activity;
(b) the fault or faults within a 100 kilometer radius that may be active within the next 100 years;
(c) the types of faults considered;
(d) the seismic recurrence factor for the area and faults (when known) within the 100 kilometer radius;
(e) the mathematic probability or statistical analysis of seismic activity associated with the faults within the 100 kilometer radius (the recurrence information should be plotted graphically);
(f) the postulated magnitude shall not be lower than the maximum that has occurred within historic time.

PYA, JES, RWS 2/75

For a list of geologic maps and reports available from the California Division of Mines and Geology, write to the California Division of Mines and Geology, P.O. Box 2980, Sacramento, CA 95812, or visit our District offices in SACRAMENTO, 2815 "O" Street, (916) 445-5716; SAN FRANCISCO, Room 2022, Ferry Building, (415) 557-0633; LOS ANGELES, Room 1065, 107 South Broadway, (213) 620-3560.

CALIFORNIA DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY

DMG NOTE 44

GUIDELINES FOR PREPARING ENGINEERING GEOLOGIC REPORTS

The following guidelines are required for engineering geologic reports submitted to the Department of Public Works, County of Ventura. This information was originally printed in CALIFORNIA GEOLOGY, November 1974. These guidelines are an example of "state-of-the-art" and all the elements should be considered during the preparation and review of geologic reports. Item V was provided by the Southern California Section, Association of Engineering Geologists, the State Building Safety Board, and the California Division of Mines and Geology.

I. GEOLOGIC MAPPING

A. Each report must be a product of independent geologic mapping of the subject area at an appropriate scale and in sufficient detail to yield a maximum return of pertinent data. In connection with this objective, it may be necessary for the geologist to extend his mapping into adjacent areas.

B. All mapping should be done on a base with satisfactory horizontal and vertical control—in general a detailed topographic map. The nature and source of the base map should be specifically indicated. For subdivisions, the base map should be the same as that to be used for the tentative map or grading plan.

C. Mapping by the geologist should reflect careful attention to the lithology, structural elements, and three-dimensional distribution of the earth materials exposed or inferred within the area. In most hillside areas these materials will include both bedrock and surficial deposits. A clear distinction should be made between observed and inferred features and relationships.

D. A detailed large-scale map normally will be required for a report on a tract, as well as for a report on a smaller area in which the geologic relationships are not simple.

E. Where three-dimensional relationships are significant but cannot be described satisfactorily in words alone, the report should be accompanied by one or more appropriately positioned structure sections.

F. The locations of test holes and other specific sources of subsurface information should be indicated in the text of the report or, better, on the map and any sections that are submitted with the report.

II. GENERAL INFORMATION

Each report should include definite statements concerning the following matters:

A. Location and size of subject area, and its general setting with respect to major geographic and geologic features.

B. Who did the geologic mapping upon which the report is based, and when the mapping was done.

C. Any other kinds of investigations made by the geologists and, where pertinent, reasons for doing such work.

D. Topography and drainage in the subject area.

E. Abundance, distribution, and general nature of exposures of earth materials within the area.

F. Nature and source of available subsurface information. Suitable explanations should provide any technical reviewer with the means for assessing the probable reliability of such data. (Subsurface relationships can be variously determined or inferred, for example, by projection of surface features from adjacent areas, by the use of test-hole logs, and by interpretation of geophysical data, and it is evident that different sources of such information can differ markedly from one another in degree of detail and reliability according to the method used.)

III. GEOLOGIC DESCRIPTIONS

The report should contain brief but complete descriptions of all natural materials and structural features recognized or inferred within the subject area. Where interpretations are added to the recording of direct observations, the basis for such interpretations should be clearly stated.

The following checklist may be useful as a general, though not necessarily complete, guide for descriptions:

A. Bedrock—igneous, sedimentary, metamorphic types.

1. Identification as to rock type (gran ite, silty-sandstone, mica-schist).
2. Relative age, and where possible, correlation with named formations (Rincon formation, Vaqueros sandstone).
3. Distribution.
4. Dimension features (thickness, outcrop breadth, vertical extent).
5. Physical characteristics (color, grain size, nature of stratification, foliation, or schistosity, hardness, coherence).
6. Special physical or chemical features (calcareous or siliceous cement, concretions, mineral deposits, alteration other than weathering).
7. Distribution and extent of weather zones; significant differences between fresh and weathered rock.
8. Response to natural surface and near-surface processes (raveling, gullying, mass movements).

B. Structural features—stratification, foliation, schistosity, folds, zones of contortion or crushing, joints, shear zones, faults.

1. Occurrence and distribution.
2. Dimensional characteristics.
3. Orientation, and shifts in orientation.
4. Relative ages (where pertinent).
5. Special effects upon the bedrock. (Describe the conditions of planar surfaces.)
6. Specific features of faults (zones of gouge and breccia, nature of offsets, timing of movements); are faults active in either the geological sense or the historical sense?

C. Surficial (unconsolidated) deposits —artificial (manmade fill, topsoil,

(Over)

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stream-laid alluvium, beach sands and gravels, residual debris, lake and pond sediments, swamp accumulations, dune sands, marine and nonmarine terrace deposits, talus accumulations, creep and slope-wash materials, various kinds of slump and slide debris.

1. Distribution, occurrence, and relative age; relationships with present topography.
2. Identification of materials as to general type.
3. Dimensional characteristics (thickness, variations in thickness, shape).
4. Surface expression and correlation with features such as terraces, dunes, undrained depressions, anomalous protuberances.
5. Physical or chemical features (moisture content, mineral deposits, content of expansible clay minerals, alteration, cracks and fissures, fractures).
6. Physical characteristics (color, grain size, hardness, compactness, coherence, cementation).
7. Distribution and extent of weathered zones; significant differences between fresh and weathered material.
8. Response to natural surface and near-surface processes (raveling, gullying, subsidence, creep, slope washing, slumping, and sliding).

D. Drainage—surface water and groundwater.

1. Distribution and occurrence (streams, ponds, swamps, springs, seeps, subsurface basins).
2. Relations to topography.
3. Relations to geologic features (previous strata, fractures, faults).
4. Sources and permanence.
5. Variations in amounts of water (intermittent springs and seeps, floods).
6. Evidence for earlier occurrence of water at localities now dry (vegetation, mineral deposits, historic records).
7. The effect of water on the properties of the in-place materials.

E. Features of special significance (if not already included in foregoing descriptions).

1. Features representing accelerated erosion (cliff re-entrants, badlands, advancing gully heads).
2. Features indicating subsidence of settlement (fissures, scarplets, offset reference features, historic records and measurements).
3. Features indicating creep (fissures, scarplets, distinctive patterns of cracks and/or vegetation, topographic bulges, displaced or tilted reference features, historic records and measurements).
4. Slump and slide masses in bedrock and/or surficial deposits; distribution, geometric characteristics, correlation with topographic and geologic features, age, and rates of movement.
5. Deposits related to recent floods (talus aprons, debris ridges, canyon-bottom trash).
6. Active faults and their recent effects upon topography and drainage.

IV. BEARING OF GEOLOGIC FACTORS UPON INTENDED LAND USE

Treatment of this general topic, whether presented as a separate section or integrated in some manner with the geologic descriptions, normally constitutes the principal contribution of the report. It involves both (1) the effects of geologic features upon the proposed grading, construction, and land use, and (2) the effects of these proposed modifications upon future geological processes in the area.

The following checklist includes the topics that ordinarily should be considered in submitting discussion, conclusions, and recommendations in the geologic reports:

A. General compatibility of natural features with proposed land use: Is it basically reasonable to develop the subject area?

1. Topography.
2. Lateral stability of earth materials.
3. Problems of flood inundation, erosion, and deposition.
4. Problems caused by features or conditions in adjacent properties.
5. Other general problems.

B. Proposed cuts.

1. Prediction of what materials and structural features will be encountered.
2. Prediction of stability based on geologic factors.
3. Problems of excavation (unusually hard or massive rock, excessive flow of groundwater).
4. Recommendations for reorientation or repositioning of cuts, reduction of cut slopes, development of compound cut slopes, special stripping above daylight lines, buttressing, protection against erosion, handling of seepage water, setbacks for structures above cuts.

C. Proposed masses of fill.

1. General evaluation of planning with respect to canyon-filling and sidehill masses of fill.
2. Comment on suitability of existing natural materials for fill.
3. Recommendations for positioning of fill masses, provision for underdrainage, buttressing, special protection against erosion.

D. Recommendations for subsurface testing and exploration.

1. Cuts and test holes needed for additional geologic information.
2. Program of subsurface exploration and testing, based upon geologic considerations, that is most likely to provide data needed by the soils engineer.

E. Special recommendation:

1. Areas to be left as natural ground.
2. Removal or buttressing of existing slide masses.
3. Flood protection.
4. Protection from wave erosion along shorelines.
5. Problems of groundwater circulation.
6. Position of structures with respect to active faults.

V. SEISMIC CONSIDERATIONS

The following published guidelines should be considered when preparing seismic information.

1. DMG NOTE 42, *Guidelines to Geologic/Seismic Reports (formerly DMG NOTE 37).*
2. DMG NOTE 43, *Guidelines for Determining the Maximum Credible and the Maximum Probable Earthquakes.*

VI. DOCUMENTATION AND IMPLEMENTATION

A. The report should consider as the minimum requirement, Chapter 70, Uniform Building Code (1973). Refer to California Administrative Code, Title 25, Section 1090, Excavation and Grading.

B. All material in the report should be relevant to the purpose of the report.

C. All statements should be documented by references or by accurate field observations.

D. Aerial photos (originals or suitable copies) should be included to document any discussion on landslides and faults.

E. The method(s) of field analysis should be discussed in a lucid manner.

Revised 4/86

CALIFORNIA DIVISION OF MINES AND GEOLOGY

CDMG NOTE 46

GUIDELINES FOR GEOLOGIC/SEISMIC CONSIDERATIONS IN ENVIRONMENTAL IMPACT REPORTS

The following guidelines were prepared by the Division of Mines and Geology with the cooperation of the State Water Resources Control Board to assist those who prepare and review environmental impact reports.

These guidelines will expedite the environmental review process by identifying the potential geologic problems and by providing a recognition of data needed for design analysis and mitigating measures. All statements should be documented by reference to material (including specific page and chart numbers) available to the public. Other statements should be considered as opinions and so stated.

1. CHECKLIST OF GEOLOGIC PROBLEMS FOR ENVIRONMENTAL IMPACT REPORTS

GEOLOGIC PROBLEMS		Could the project or geologic event cause environmental problems?			Is this conclusion documented in attached reports?	
PROBLEM	ACTIVITY CAUSING PROBLEM	NO	YES	ENVIRONMENTAL PROBLEMS	NO	YES
EARTHQUAKE DAMAGE	Fault Movement					
	Liquefaction					
	Landslides					
	Differential Compaction/ Seismic Settlement					
	Ground Rupture					
	Ground Shaking					
	Tsunami					
	Seiches					
	Flooding Due to Failure of Dams and Levees					
LOSS OF MINERAL RESOURCES	Loss of Access					
	Deposits Covered by Changed Land-Use Conditions					
	Zoning Restrictions					
WASTE DISPOSAL PROBLEMS	Change in Groundwater Level					
	Disposal of Excavated Material					
	Percolation of Waste Material					
SLOPE AND/OR FOUNDATION INSTABILITY	Landslides and Mudflows					
	Unstable Cut and Fill Slopes					
	Collapsible and Expansive Soil					
	Trench-Wall Stability					
EROSION, SEDIMENTATION, FLOODING	Erosion of Graded Areas					
	Alteration of Runoff					
	Unprotected Drainage Ways					
	Increased Impervious Surfaces					
LAND SUBSIDENCE	Extraction of Groundwater, Gas, Oil, Geothermal Energy					
	Hydrocompaction, Peat Oxidation					
VOLCANIC HAZARDS	Lava Flow					
	Ash Fall					

(over)

For a list of geologic maps and reports available from the California Division of Mines and Geology, write to the California Division of Mines and Geology, P.O. Box 2980, Sacramento, CA 95812, or visit our District offices in SACRAMENTO, 2815 "O" Street, (916) 445-5716; SAN FRANCISCO, Room 2022, Ferry Building, (415) 557-0633; LOS ANGELES, Room 1065, 107 South Broadway, (213) 620-3560.

II. CHECKLIST OF GEOLOGIC REPORT ELEMENTS

REPORT ELEMENTS	YES	NO
A. General Elements Present		
Description and map of project.		
Description and map of site.		
Decription and map of pertinent off-site areas.		
B. Geologic Element (refer to checklist)		
Are all the geologic problems mentioned?		
Are all the geologic problems adequately described?		
C. Mitigating Measures		
Area mitigating measures necessary?		
Is sufficient geologic information provided for the proper design of mitigating measures?		
Will the failure of mitigating measures cause an irreversible environmental impact?		
D. Alternatives		
Area alternatives necessary to reduce or prevent the irreversible environmental impact mentioned?		
Is sufficient geologic information provided for the proper consideration of alternatives?		
Are all the possible alternatives adequately described?		
E. Implementation of the Project		
Is the geologic report signed by a registered geologist?*		
Does the report provide the necessary regulations and performance criteria to implement the project?		

*Required for interpretive geologic information.

III. PUBLISHED REFERENCES (selected)

A. California Division of Mines and Geology Publications

1. Alfors, J.T., et al., 1973, Urban geology master plan for California: Bulletin 198.
2. Greensfelder, R.W., 1974, Maximum credible rock acceleration from earthquakes in California: Map Sheet 23.
3. Jennings, C.W., 1975 Fault Report 13 of California, GDM No. 1.
4. Oakeshott, G.B., 1974, San Fernando, California, earthquake of 9 February 1971: Bulletin 196.
5. Note No. 37, Guidelines to geologic/seismic reports, 1973.
6. Note No. 43, Recommended guidelines for determining the maximum credible and the maximum probable earthquakes, 1975.
7. Note No. 44, Recommended guidelines for preparing engineering geologic reports, 1975.
8. Note No. 45, Recommended guidelines for preparing mine reclamation plans, 1975.
9. Parke, D.L., Real, C.R., Toppozada, T.R., 1978, Earthquake Epicenter Map of California, showing events from 1900 through 1974.
10. Real, C.R., Toppozada, T.R., and Parke, D.L., 1978, Earthquake catalog of California, January 1, 1900-December 31, 1974 (microfiche).

B. Other Publications

1. Allen, C.R., et al., 1965, Relationship between seismicity and geologic structure in the southern California region: Bulletin of the Seismological Society of America, v. 55, no. 4.
2. Bolt, B.A. and Miller, R.D., 1971, Seismicity of northern and central California, 1965-1969: Bulletin of the Seimological Society of America, v. 61, no. 6.
3. California Department of Water Resources, 1964, Crustal strain and fault movement investigation: Bulletin No. 116-2.
4. Coffman, J.L. and von Hake, C.A., ed., 1973, Earthquake history of the United States: U.S. Department of Commerce, Publication 41-1.
5. Hileman, J.A., et al., 1973, Seismicity of the southern California region, 1 January 1932 to 31 December 1972: California Institute of Technology, Contribution 2385. Periodical updates to this are available.

IV. PUBLIC AGENCIES WITH GEOLOGIC DATA

Source	Data Available			
	Saismicity	Geology	Ground Water	Soils
Libraries and Geology and Engineering Departments of California Universities	X	X	X	X
California Institute of Technology	X			
California Division of Mines and Geology (Sacramento, San Francisco, Los Angeles, CA)	X	X		
California Department of Water Resources (Sacramento, CA)		X		X
California Department of Transportation (District Offices)				X
County Soil & Water Conservation Districts				X
County Engineer and Departments of Building and Safety	X	X		X
County Highway Dapartment				X
County Flood Control District				X
U.S. Geological Survey (Menlo Park, CA)		X		
U.S. Corps of Engineers (District Engineer)		X		
U.S. Bureau of Reclamation (Regional Offices)		X		
U.S. Soil Conservation Service and Forest Service				X

P.Y.A., J.E.S. 6/75, Rev. 1/82 CLZ

CALIFORNIA DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY

DMG NOTE 49

GUIDELINES FOR EVALUATING THE HAZARD OF SURFACE FAULT RUPTURE

These guidelines are to assist geologists who investigate faults relative to the hazard of primory surface rupture. Subsequent to the possage of the Alquist-Priolo Speciol Studies Zones Act (1972), it became apparent that many fault investigations conducted in California were incomplete or otherwise inadequate for the purpose of evaluating the potential of surface fault rupture. It wos further apparent that statewide standards for investigating foults would be beneficiol.

The investigation of sites for the possible hazard of surface fault rupture is a deceptively difficult geologic task. Many active faults are complex, consisting of multiple breoks. Yet the evidence for identifying active fault traces is generally subtle or obscure ond the distinction between recently active and lang-inactive faults may be difficult to make. Once a structure is sited astride an active fault, the resulting fault-rupture hazard cannot be mitigated unless the structure is relocated, whereas when o structure is placed on a landslide, the hazard from landsliding often can be mitigated. Further, it is impractical from an economic, engineering, and architectural point of view to design a structure to withstand serious damage under the stress af surface fault rupture. Thus, the evaluation of a site for the hazard of surfoce fault rupture is a difficult ond delicate procedure.

Because of the complexity of evaluating surface and neor surface faults ond because of the infinite variety af site conditians, no single investigative method will be the best, or even useful, at all sites. Nonetheless, certain investigative methads are more helpful than others in locating faults and evaluating the recency of activity.

The evoluotion af a given site with regord to the potential hazord of surface fault rupture is based extensively on the concepts of *recency* and *recurrence* of faulting along existing foults. In a general way, the more recent the faulting the greater the probability for future faulting (Allen, 1975). Stated anather way, faults of known historic activity during the last 200 years, as a class, have a greater probobility for future activity than faults classified as Holocene age (lost 11,000 years) ond a much greater probability of future activity than faults classified as Quaternary age (last two million years). However, it should be kept in mind that certain faults have recurrent octivity meosured in tens or hundreds of yeors, whereas other faults moy be inactive for thousands of years before being reactivated. Other faults may be characterized by creep-type rupture. The mognitude, sense, and nature of fault rupture also vary for different faults or even along different segments of the same fault. Even so, future foulting generally is expected to recur along pre-existing faults (Bonilla, 1970, p. 68). The development of a new fault ar reactivation of a long-inoctive fault is relatively uncommon and generally need not be a concern in site development.

As a practical matter, fault investigations should be directed at the problem of locating existing faults and then attempting to evaluate the recency of their activity. It is pointed out that data are obtained both from the site and outside the site area. The most direct method of evaluating recency is to observe (in a trench or road cut) the youngest geologic unit faulted and the oldest unit that is not faulted. Recently octive faults may also be identified by direct observotion of young, fault-related geomorphic (i.e. topographic) features in the field, on aerial photographs, or on remotely obtained images. Other indirect and more interpretive methods are identified in the outline below. Some of these methods are discussed in Slemmons (1977), Banilla (1982), Wallace (1977), Taylor and Cluff (1973), Sherard and others (1974), Hatheway and Leighton (1979), and the National Reseorch Council (1986), but na comprehensive manual on the subject of fault investigation and evoluation exists at this time. Many other useful references exist and are listed in the bibliographies of the references cited here.

The following annotated outline provides guidelines for a comprehensive fault investigation that may be applied to any project site, large or small. Fault investigatians may be conducted in conjunction with other geotechnical investigations [see DMG Notes 42 (formerly 37) and 44]. Although not all investigative techniques need to be or can be employed in evaluating a given site, the outline provides a checklist for preparing complete and well-documented reparts. Since most reports an fault investigations are filed with and reviewed by local or state government agencies, it is necessary that the reports be adequotely documented and carefully written to facilitate that review. The importance of the review process is emphasized here, because it is the reviewer who must evaluate the adequacy of reports, interpret or set standards where they are unclear, and advise the governing agency as to their acceptability (Hart and Williams, 1978).

The scope of the investigation is dependent not only on complexity ond ecanamics af a project, but also on the level of risk acceptable for the proposed structure or development (Joint Committee on Seismic Safety, 1974, p. 9). Obviously, a more detailed investigation should be made for hospitals, high-rise buildings, and other critical ar sensitive structures than for low-density structures such as wood-frame dwellings that ore comparatively safe. The conclusions drawn from ony given set of data, however, must be consistent and unbiosed. Recommendotians must be clearly separoted from conclusions, since recommendatians are nat totally dependent on geologic factors. The final decision as to whether, or how, a given project should be developed lies in the honds of the owner ond the governing body that must review and approve the project.

Suggested Outline for Geologic Reports on Faults

The following subjects should be addressed, or at leost considered, in ony geologic report on faults. Some of the investigative methods listed below should be carried out well beyond the site being investigated. However, it is not expected that all of the methods identified would be used in a single investigation.

I. Text

- A. Purpose and scope of investigotion
- B. Geologic setting
- C. Site description and conditions. Include information on geologic units, graded and filled areas, vegetation, existing structures, and other factors that may affect the choice of investigative methods and the interpretatian of data.
- D. Methods of investigatian
  1. Review af published and unpublished literature and recards concerning geologic units, faults, ground-water barriers, and other factors.
  2. Stereoscopic interpretation of aerial photographs and other remotely sensed images to detect fault-related topography, vegetation and soil contrasts, and other lineaments of possible fault origin.

Public Information Office, 1516 Ninth Street, Fourth floor, Sacramento, CA 95814, (916) 445-5716. MAIL ORDER, P.O. Box 2980, Sacramento, CA 95812. Los Angeles Office, 107 South Broadway, Room 1065, Los Angeles, CA 90012, (213) 620-3560. San Francisco Bay Area Office, 380 Civic Drive, Pleasant Hill, CA 94523-1997, (415) 671-4920.

GORDON K. VAN VLECK, Secretary
THE RESOURCES AGENCY

GEORGE DEUKMEJIAN, Governor
STATE OF CALIFORNIA

RANDALL M. WARD, Director
DEPARTMENT OF CONSERVATION

3. Surface observations, including mapping of geologic and soil units and structures, geomorphic features, springs, deformation of manmade structures due to fault creep, both on and beyond the site.
4. Subsurface investigations
   a. Trenching and other extensive excavations to permit detailed and direct observation of cantinuously exposed geologic units and features that must be carefully logged (see Taylor and Cluff, 1973).
   b. Borings and test pits to permit collection of data on geologic units and ground water at specific locations. Data points must be sufficient in number and adequately spaced to permit valid correlations and interpretations.
5. Geophysical investigations. These are indirect methods that require a knowledge of specific geologic conditions for reliable interpretations. They should seldom, if ever, be employed alone without knowledge of the geology. Geophysical methods alone *never* prove the absence of a fault nor do they identify the recency of activity. The types of equipment and techniques used should be described.
   a. Seismic refraction
   b. Magnetic intensity
   c. Other (e.g., electrical resistivity, seismic reflection, ground penetrating radar, gravity)
6. Other methods should be included when special conditions permit, or requirements for critical structures demand, a more intensive investigation.
   a. Aerial reconnaissance overflights.
   b. Geodetic and strain measurements, microseismicity monitoring, or other monitoring techniques.
   c. Radiometric onolysis (^{14}C, K-Ar), strotigrophic correlation (fossils, minerology), soil profile development, paleomagnetism (magnetostrotigraphy), or other age-doting techniques to identify the age of faulted or unfaulted units or surfaces.

E. Conclusions
1. Location and existence (or absence) of hazardous faults on or adjacent to the site.
2. Type of faults and nature of anticipated offset, including sense and magnitude of displacement, if possible.
3. Probability of or relative potential for future surface displacement. The likelihood of future ground rupture seldom can be stated mathematicolly, but may be stated in semiquantitative terms such os low, moderote, or high, or in terms of slip rates determined for specific fault segments.
4. Degree of confidence in and limitations of data and conclusions.

F. Recommendations
1. Set-back distances from hazordous faults, if appropriate. State and local law may dictate minimum standards (see Hart, 1985, appendix B).
2. Need for additional studies.
3. Risk evaluations relative to the proposed development—opinions are acceptable. But remember that the ultimate decision as to whether the risk is acceptable lies with the governing body.

II. References

A. Literature and records cited or reviewed; citations should be complete.
B. Aerial photographs or images interpreted—list type, date, scale, source, and index numbers.
C. Other sources of information, including well records, personal communications, and other data sources.

III. Illustrations—these are essential to the understanding of the report and to reduce the length of text.
A. Location map—identify site locality, significant faults, geographic features, regional geology, seismic epicenters, and other pertinent data; 1:24,000 scale is recommended.
B. Site development map—show site boundaries, existing and proposed structures, graded areas, streets, exploratory trenches, borings, geophysical traverses, and other data; recommended scole is 1 inch equals 200 feet, or larger.
C. Geologic map—shows distribution of geologic units (if more than one), faults and other structures, geomorphic features, aerial photo lineaments, and springs; on topographic map 1:24,000 scale or larger; can be combined with III(A) or III(B).
D. Geologic cross-sections, if needed to provide 3-dimensional picture.
E. Logs of exploratory trenches, and borings—show details of observed features and conditions; should not be generalized or diagrammatic. Trench logs should show topographic profile and geologic structure at a 1:1 horizontal to vertical scale.
F. Geophysical data and geologic interpretations.

IV. Appendix: Supporting data not included obove (e.g. water well data).

V. Authentication: Signature and registration number of investigoting geologist.

Selected References

Allen, C.R., 1975, Geologic criteria for evaluating seismicity: Geological Society of America Bulletin, v. 86, p. 1041-1057.

Bonilla, M.G., 1970, Surface faulting and related effects *in* Wiegel, R.L., editor, Earthquake Engineering, Prentice-Hall, Inc., Englewood Cliffs, N.J., p. 47-74. (Contains an extensive bibliography on surface faulting, fault patterns and types, width of fault zones, and creep).

Bonilla, M.G., 1982, Evaluation of potential surface faulting and other tectonic deformation: U.S. Geological Survey Open-File Report 82-732, 58 p.

California Department of Conservation, Division of Mines and Geology, 1973, Guidelines to geologic and seismic reports: DMG NOTE 42 (formerly 37).

California Department of Conservation, Division of Mines and Geology, 1975, Recommended guidelines for preparing engineering geologic reports: DMG NOTE 44.

Hart, E.W., 1985 (revised), Fault-rupture hazard zones in California: California Department of Conservation, Division of Mines and Geology Special Publication 42, 25 p. (Revised periadically; information on state law and zoning program for regulating development near hazardous faults).

Hart, E.W., and Williams, J.W., 1978, Geologic review process: CALIFORNIA GEOLOGY, v. 31, no. 10, p. 235-236.

Hatheway, A.W., and Leighton, F.B., 1979, Trenching as an exploratory tool *in* Hatheway, A.W., and McClure, C.R., Jr., editors, Geology in the siting of nuclear power plants: Geological Society of America Reviews in Engineering Geology, v. IV, p. 169-195.

Joint Committee on Seismic Safety, California Legislature, 1974, Meeting the earthquake challenge: California Division of Mines and Geology, Special Publication 45, 223 p.

National Research Council, 1986, Studies in geophysics-active tectonics: National Academy Press, Washington, D.C., 266 p. (contains several articles evaluating active faulting).

Sherard, J.L., Cluff, L.S., and Allen, C.R., 1974, Potentially active faults in dam foundations: Geotechnique, Institute of Civil Engineers, Landan, v. 24, no. 3, p. 367-428.

Slemmons, D.B., 1977, State-of-the-art for assessing earthquake hazards in the United States: Report 6, faults and earthquake magnitude: U.S. Army Engineer Waterways Experiment Station Miscellaneous Paper S-73-1, 129 p. with 37 p. appendix. (Summarizes fault evaluation techniques; extensive bibliography).

Taylor, C.L., and Cluff, L.S., 1973, Fault activity and its significance assessed by exploratory excavation *in* Proceedings of the Conference on Tectonic Problems of the San Andreas Fault System: Stanford University Publication, Geological Sciences, v. XIII, September 1973, p. 239-247.

Wallace, R.E., 1977, Profiles and ages of young fault scarps, north-central Nevada: Geological Society of America Bulletin, v. 88, p. 1267-1281.

6/86

UNGRADED SITE LOTS

According to the Subdivision Ordinance, every lot must have a buildable site free of geotechnical hazards such as landslides, slippage, or settlement. In addition, access free of geotechnical hazards must be provided for each lot. Any geotechnical hazards, which must be removed in order to provide a building site and access, generally must be mitigated before the tract or parcel map may be recorded.

Some developments may be subdivided into lots where the specific types and locations of structures have not been determined and/or the developers do not intend to perform any grading or required corrective measures prior to the recordation of the Final Map. These types of developments may be designated as "Ungraded Site Lots" and the subdivision recorded in accordance with the following criteria:

1. The consultant geologist and soils engineer must indicate in their reports all grading and corrective work required to provide safe access to the lot and to provide a site suitable for development. If a lot is identified as having a geotechnical hazard, the consultants must clearly identify the hazard in the geotechnical reports and recommend corrective work. Hazards, which are not recommended to be mitigated, must be designated as "Restricted Use Areas" on the Final Map.

2. Access free of geotechnical hazards must be provided to each lot.

3. Soils subject to hydroconsolidation 5 feet or less in depth and expansive soils are not considered a geotechnical hazard for the "Ungraded Site Lots" criteria.

4. Grading is not required if natural slopes are 5:1 or flatter.

5. For slopes steeper than 5:1, a concept grading plan or a Regional Planning Department "Exhibit A" grading plan is required. All recommended grading and corrective work must be self-contained within each lot. Grading and/or corrective work that requires crossing lot boundaries disqualifies the development from the "Ungraded Site Lots" criteria.

6. Prior to approval of the development for recordation of the Final Map, the following is required on the Final Map:

   a. The location of the safe access to the lots;
   b. The location of the potential building sites in accordance with the geotechnical reports, if a grading concept or Exhibit "A" grading plan has been required and/or where an unmitigated hazard exists;

c. The location of "Restricted Use Areas", as recommended in the geotechnical reports; and
d. A note that reads: "For grading and corrective work requirements for the access and building areas, refer to the geotechnical reports by (Consultants) dated (date)."

APPROVED:

VICTOR C. MARTINEZ
Assistant Deputy Director

VCM:sr/A:GS001.0
Supersedes GS001 dated 2/13/90

SUBDIVISION - "REMAINDER PARCEL" FOR TENTATIVE AND FINAL MAPS

The boundaries of a proposed subdivision map must agree with the boundaries of the last legally created parcel/lot. If not, the map must indicate the portion of the parcel/lot not being developed as a REMAINDER PARCEL. When this designation is shown on the tentative and final maps, the following geotechnical review criteria shall apply:

1. The geotechnical consultants must provide data to establish that the Remainder Parcel may be divided into two or more buildable sites not subject to existing or potential geologic/geotechnical hazards.

2. Safe buildable sites and access to the buildable sites not subject to a geologic hazard must be demonstrated by the geotechnical consultants on the geotechnical map. The grading and/or corrective measures required to accomplish this do not have to be completed prior to recordation of the final map. The geotechnical consultants report(s) shall be referenced by a note on the final map.

3. Access free of geologic/geotechnical hazards must exist to each lot at the time of recordation, or geologic corrective bonds must be provided to assure completion of the corrective measures necessary to provide the access.

4. If, after providing for lot access and indicating the location of safe buildable sites and access to the buildable sites, unmitigated geologic/geotechnical hazards still exist on the Remainder Parcel, these areas are <u>not</u> to be designated as Restricted Use Areas on the final map. This designation shall be considered when the Remainder Parcel is developed or subdivided.

Approved:

Donald L. Wolfe

Donald L. Wolfe
Assistant Deputy Director

VCM:sh
6:DP

SUBDIVISIONS IMPACTED BY EXISTING LANDSLIDES

The following guidelines and requirements are for the geotechnical review of subdivisions impacted by landslides, with regards to property boundaries and safe building areas. Generally, existing landslides are considered a hazard unless it is demonstrated by subsurface exploration, rock and soil testing, and stability analysis that the landslide has appropriate safety factors.

An existing landslide which if activated could adversely impact off-site property (outside of the subdivision) does not have to be mitigated if the existing conditions will not be changed, worsened, or otherwise be affected by the proposed development, and the hazard does not pose a threat to on-site building areas in the subdivision. It must be clearly demonstrated that the proposed development will not increase the potential for failure of the hazardous conditions, otherwise, mitigation measures will be required.

An unmitigated landslide hazard, and the surrounding affected area inside the proposed subdivision, will have to be designated as a Restricted Use Area.

Case designations listed below refer to the attached Plate A:

Case A Proposed lot line crosses landslide.

Adjust lot line to constrain the landslide on one lot or provide remediation of the landslide. The landslide hazard cannot be subdivided.

Case B The designated building area is at the toe of a landslide, which is contained within a single lot of the subdivision.

Relative to the building area, the landslide must be mitigated (e.g. buttressed or removed) or be geotechnically shown to be stable and not a threat to the safety of the proposed structure.

Cases C and G

The landslides are outside of the subdivision boundary where remediation is not possible.

Unless an adequate setback can be provided or the landslide stabilized, an alternate building area is required.

Cases D and E

A landslide transects the subdivision boundary.

No mitigation is required because the landslide transects an existing property boundary. However, it must be clearly demonstrated that the proposed development will not adversely affect or contribute to the instability of the landslide in the future, otherwise, the landslide must be mitigated.

Cases F and G

The landslides are either entirely inside or outside of the subdivision perimeter boundary and do not affect the safety of the building area.

It must be clearly established that the proposed development will not adversely affect or contribute to the instability of the landslide, resulting in adverse effects on adjacent property and relative stability, otherwise, the landslide must be mitigated.

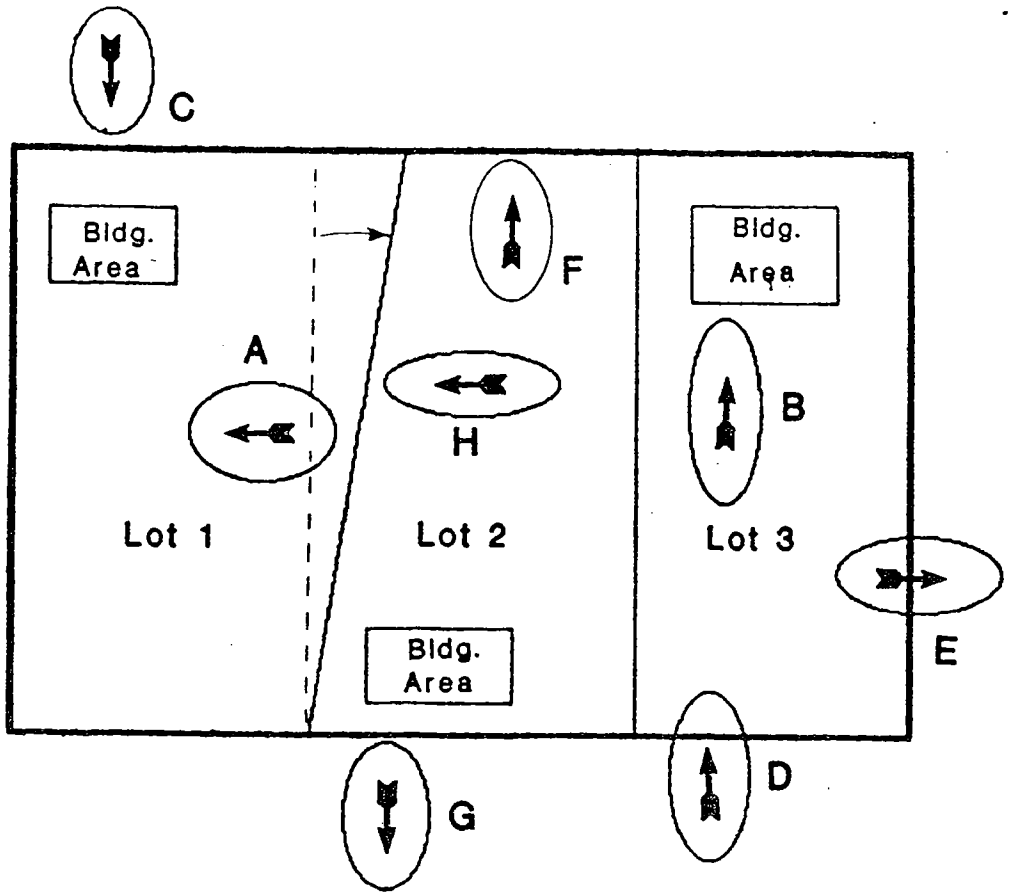
Case H

An existing landslide, which could affect an adjacent lot in the same subdivision, must be removed or otherwise mitigated.

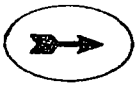
Approved by:

VICTOR C. MARTINEZ
Assistant Deputy Director

A:GS086.0

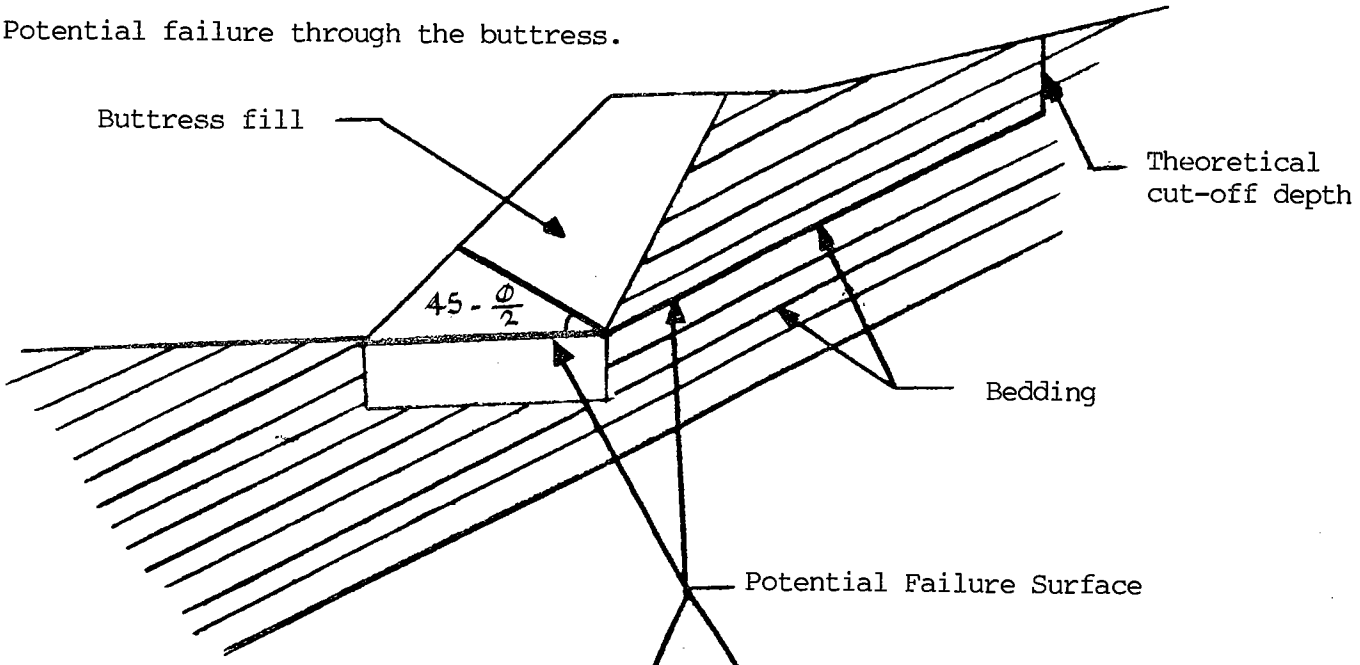


LEGEND

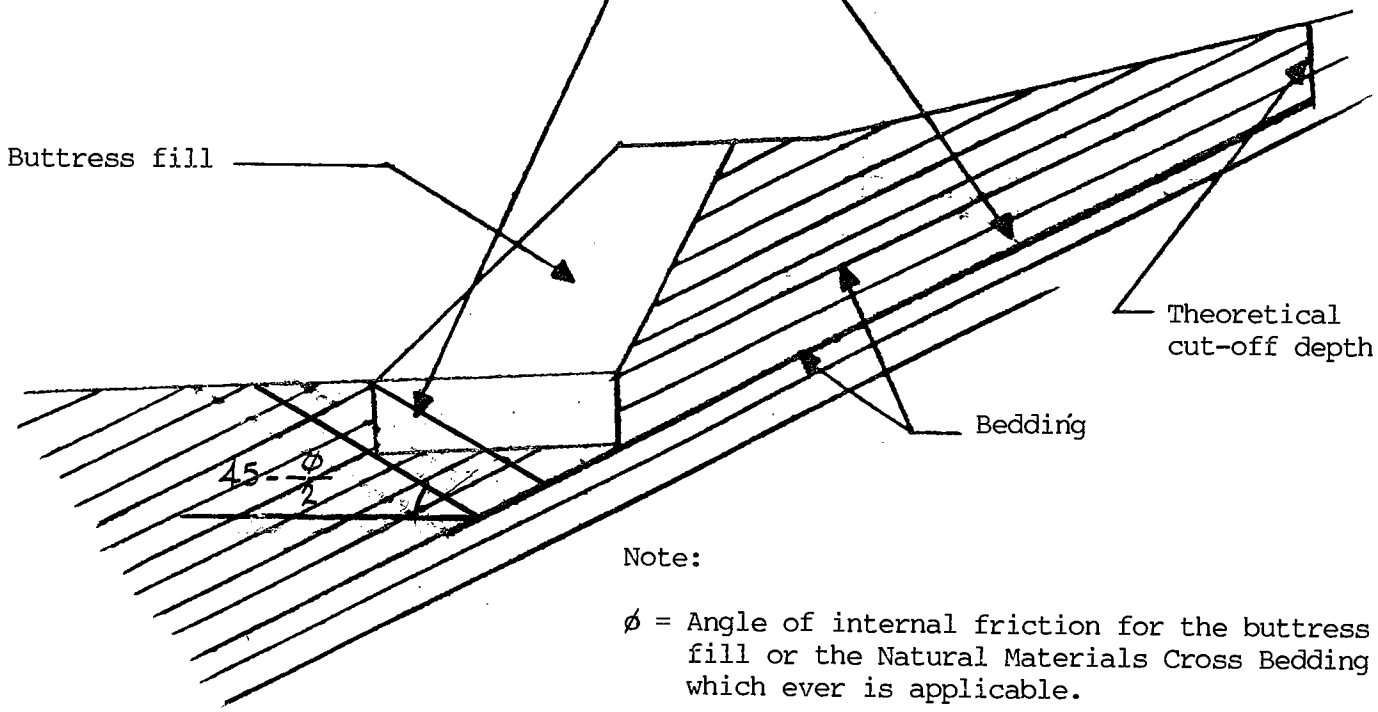
	Landslide. Arrow indicates direction of movement.
- - -	Lot boundary. Short dashes indicate movement of boundary required for Case "A" (see text).
———	Boundary of tentative subdivision.
A, B, etc.	Case designation (see text).
	Proposed building area.

BUTTRESS FILL DESIGN

Case 1. Potential failure through the buttress.



Case 2. Potential failure below the buttress.



Note:

Ø = Angle of internal friction for the buttress fill or the Natural Materials Cross Bedding which ever is applicable.

FIGURE 1

CHAPTER 50

REFERENCE MATERIAL SOURCES

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The Building and Safety/Land Development Procedure Manual refers to many different references and materials that must be acquired by developers, engineers, geologists, etc., in order to have sufficient information to properly prepare the submittals that are required for approval by the Building and Safety/Land Development Division. The sources of these references are as followed:

I. County Publications and Records

A. Public Works Department

1. Manuals and Computer Programs

Most manuals and computer programs published by the Department of Public Works for their use and the use of the public are available from the cashier's office located in the lobby of the Department's main office building located at 900 South Fremont Avenue, Alhambra, California. Waste Management Division sells some documents from their Public Counter.

2. Maps and Plans

All maps and plans published by the Department and the Highway Master Plan published by the Department of Regional Planning are available from the Survey Division Public Counter on the third floor of the Department's main headquarters building, 900 South Fremont Avenue, Alhambra, California. All orders must be placed in person. No telephone orders are accepted.

B. Department of Health Services

The Water Service and Subdivision Program of the Department of Health Services regulates private waste disposal systems and private water systems. This organization is located at 2615 South Grand Ave., Room 604, Los Angeles, California 90007. For information regarding Malibu and other mountainous areas, call (213) 744-3257. For information regarding other areas in the County, call (213) 744-3214.

C. Department of Regional Planning

1. Environmental Document Reporting Procedures and Guidelines

The "Environmental Document Reporting Procedures and Guidelines" is available for sale at the Land Development Coordinating Center public counter, Department of Regional Planning, 13th Floor, Hall of Records, 320 West Temple Street, Los Angeles, California 90012. Reference copies are available in Planning Division.

2. County General Plan

The County General Plan contains many items that affect land development. Copies of the entire General Plan are available at the Department of Regional Planning.

D. Forester and Fire Warden

The Forester and Fire Warden publishes the following two documents regarding Oak Tree preservation:

1. Oak Trees: Care and Maintenance (P09-88).

2. Care and Maintenance of Oak Trees in Los Angeles County

These documents are available from the Los Angeles County Forester and Fire Warden, Forestry Division, 1320 N. Eastern Avenue, Los Angeles, California 90063, telephone (213) 267-2481.

E. Public Works Department Policy Statements

Generally Public Works Department Policies are not made available to the public. They may be made a part of a manual as part of Item A above.

The Department issues Administrative Directives which are distributed to all Section Heads and higher. These directives present procedures and standards for Department operations. Building and Safety Division issues a Building Code Manual. This Manual, which is permitted by the Building Code, details specific standards and methods acceptable to the Department as complying with the Building Code requirements.

Each Division has in its files Division policy statements clarifying that Division's procedures and minimum standards of operation.

F. Department of Public Works Records

Chapter 3.5, "Inspection of Public Records", beginning with Section 6250 of the California Government Code establishes what records can be inspected by the public and the procedures for inspecting them. Most records maintained by the Department are available for inspection. Some records by law cannot be made public while others may be held from inspection at the discretion of the Department. Records exempt from public disclosure requirements are presented in Section 6254 of the California Government Code. Such records as preliminary drafts not retained in the permanent file, information received in confidence, and records pertaining to pending litigation are typical of these records in Building and Safety/Land Development Division exempt under this section.

The following are files of interest to Building and Safety/Land Development Division and those who work with this Division:

1. Building and Safety/Land Development Division

The Building and Safety/Land Development Division maintains files that contain materials on the following subjects:

a. Subdivision and single lot data such as grading, drainage, geotechnical, road, tentative map, final map, water system, and other supporting data as required for approval.

b. Private drains and supporting data.

c. Miscellaneous transfer drains and supporting data.

d. Private Contract sewers and supporting data.

e. Geotechnical data for storm drains, roads, airports, bridges, dams buildings, parks, and other County capital projects handled by the Division.

f. Highway maps.

g. Sewer Area Studies.

h. Hydrology Studies.

i. Water Code Enforcement.

j. Private Small Dam Inspection Reports.

k. Water utility boundaries.

l. Water utility certifications.

m. County-owned and maintained dam construction and surveillance data.

n. Sea water barrier geological data.

The procedures for obtaining documents from the Building and Safety/Land Development Division files are as follows:

a. General Public Request for Review of Files

1/ A request by the general public to review a file must be processed through the Building and Safety/Land Development Processing Center. The Processing Center counter person will notify the responsible section providing them verbally the file review request. It is the responsibility of all parties to identify the correct titles of the desired files by knowing the parent tract, unit tract, street address, geographic location, capital project title, private drain number, private contract sewer number, etc.

2/ The section representative will check out the file from the Division File Room in accordance with Items e.1/ and e.2/ beginning on Page 50-5.

3/ The section representative will examine the file and remove all documents noted as confidential in accordance with the California Government Code as discussed at the beginning of Item E on Page 50-2. This confidential material is to be held in the file room by the file room clerk until reinserted back into the file upon its return.

4/ The Section representative will then take the file to the Processing Center counter person.

5/ Before the general public individual reviews the file, an affidavit (see copy on Page 50-13) must be filled out, signed and submitted to the Processing Center counter person. The Processing Center counter person will hold the affidavit until the review is complete (see Item f on Page 50-5 regarding security precautions).

6/ The file must be reviewed at the Processing Center public counter with the Processing Center counter person generally watching the file.

7/ Requests for a few letter and legal size document copies can be handled at this time. There will be a charge for these copies in accordance with County policy. Large orders including plans and maps will have to be done by a bonded blue print company.

8/ Once the review has been completed, the Processing Center counter person inserts the affidavit into the file and returns it to the file room.

9/ The file room clerk, upon receipt of the file, will insert the confidential material and return the file to its proper location in accordance with Item e.4/ on Page 50-5.

b. Geotechnical Consultants Request for Review of Files

1/ Subject to permission from the Materials Engineering Division, geotechnical consultants may, instead of following the procedures in Item a above, contact directly the Division and request a specific file.

2/ The file room clerk will contact a specified representative from the Materials Engineering Division for permission for the geotechnical consultant to directly review the files. If permission is not granted, the geotechnical consultant must then proceed to the Building and Safety/Land Development Processing Center and follow the procedures in Item a above.

3/ If permission is granted, the consultant completes the check out card and the affidavit described in Item a.5/ above. The file room clerk then retains the affidavit.

4/ The file room clerk then obtains the file for the consultant. Security precautions described in Item f on Page 50-5 must be followed.

5/ The file must be reviewed in the file room with the file room clerk generally watching the file.

6/ Requests for a few letter and legal size document copies can be handled at this time by the file room clerk accompanying the consultant to the Processing Center with the desired material. The Processing Center counter person will make the copies in accordance with procedures in Item a.7/ above. When completed, the file room clerk will return the originals to their original location.

7/ Requests for large orders including maps are to be handled as described in Item a.7/ above.

8/ Once the file review has been completed, the consultant returns the file to the file room clerk. The affidavit is then placed in the file and it is processed in accordance with Item e.4/ on Page 50-5.

c. Aerial Photographs

1/ Requests to view aerial photographs are made directly to the Materials Engineering Division.

2/ The representative from the Division will obtain the desired photographs and have the reviewer sign a sign-out sheet.

3/ The view of the photographs is to be done under the general surveillance of the Division representative.

4/ When the view is completed, the photographs are returned to the Division representative for filing.

d. Public Works Department Employees

1/ Public Works Department employees follow the same procedure in Item e, except that they must complete a check-out form that contains the following: date, name, Division, telephone number, file description, and date to be returned.

2/ All files checked out by Department employees, not in the Building and Safety/Land Development Division, must be returned by noon the following day unless specific permission for a time extension is granted by the head file room clerk.

3/ When the file is returned to the file room, the file room clerk notes on the check-out form that the file was returned.

e. Building and Safety/Land Development Division Employees

1/ Building and Safety/Land Development Division employees may go directly to the file room counter, complete the check-out card and hand it to the file room clerk.

2/ The file room clerk will retrieve the file, leaving the check-out card in its place, and then turn over the file to the employee.

3/ Upon completion of the file review, the employee will place the file in the proper in-box.

4/ The file room clerk will then return the file back to its proper location, remove the check-out card and cross out the user's name. (The card can now be reused.)

f. File Security

1/ Only Department personnel authorized by the head of the Subdivision Section or the head file room clerk may enter the file room.

2/ Outside public must check in briefcases and other large packages with the file room clerk before receiving files.

2. Building Plan Checks

All Building Plan Checks, Building Permit and Grading Permit files are maintained by Building and Safety/Land Development Division. The file for the appropriate street address is located in the District Office serving that address. Also each District Office has copies of House Numbering Maps that apply to their territory.

3. Survey Division

All Survey records noted as follows are available from the Survey Division Public Counter on the Third Floor of the Headquarters Building:

a. All surveys performed by the Department.

b. All record of surveys.

c. All field books.

d. Subdivision file maps.

e. Assessors maps.

f. Subdivision index maps.

4. General Files and Plans

The General File and the Map Rooms are located in the lobby of the Headquarters Building. All documents are in the General File Room and all plans are in the Map Room. The following documents are located with the large plans and maps in the Map Room and the other documents in the General File Room:

a. All permanent documents pertaining to the Department's Capital Projects, including Flood Control channels, dams, highways, buildings, water conservation facilities, etc.

b. All plans pertaining to the Department's Capital Projects.

c. All plans for channels constructed by the Army Corps of Engineers and maintained by the Department.

d. Copies of all (Deering's) State and County Codes. (West's State Codes are in Mapping and Property Management Division.)

G. County Codes

County codes are available from several sources including the following:

1. The County Code (Complete Set)

The complete County Code is published by Book Publishing Company, 201 Westlake Avenue North, Seattle, Washington 98109, telephone (206) 343-5700. This company also publishes updates to the County Codes which are inserted in the original volumes.

2. Standard Specifications for Public Works Construction

The "Standard Specifications for Public Works Construction" along with its supplements are published by Building News, Inc., 3055 Overland Avenue, Los Angeles, California 90034, telephone (213) 202-7775.

3. Additions and Amendments to the Standard Specifications for Public Works Construction (Grey Book)

This "Grey Book" includes the Depatment's Additions and Amendments to the Specifications for Public Works construction (Green Book) for road, flood control facilities, bridge, sewer and traffic and lighting construction. Copies of this book are available for purchase at the Cashier's office of the Department of Public Works, 900 South Fremont Avenue, Alhambra, CA 91803, (818) 458-6959.

4. Vehicle and Traffic Code (Title 15 of the County Code)

   This Code has two Divisions that contain provisions that affect Land Development (see Chapter 58 of this Manual). They are Traffic Code and Miscellaneous Traffic Regulations.

   Title 15 is not published separately. The only way to obtain a separate copy is to have copies made at a library, or the Department's General File Room. The cost will be based on the copying agency's policy.

5. Highways Code (Title 16 of the County Code)

   This code has several Divisions that contain provisions that affect street and highway designs and subdivision layouts (see Chapter 58 of this Manual). Title 16 is not published separately. The only way to obtain a separate copy is to have copies made at a library, or the Department's General File Room. The cost will be based on the copying agency's policy.

6. Utilities Code (Title 20 of the County Code)

   This Code contains several divisions that apply to various subjects not of interest to this Division (see Chapter 59 of this Manual). Parts of Title 20 applying to the design of sewers, industrial waste and water mains have been published by the Department (see Page 50-16).

7. Subdivision and Zoning Codes (Titles 21 and 22 of the County Code)

   The Subdivision and Zoning Codes (Titles 21 and 22 of the County Code) are published separately from the complete set of County Codes and appear as one published publication. This is published by Book Publishing Co. and Building News, Inc. Inserts containing Code changes are sold periodically by these firms for their published versions. (For the addresses of the publishers, see Items 1 and 2 above.)

8. Building Code (Title 26 of the County Code)

   The Building Code (Title 26 of the County Code) is published separately from the complete set of County Codes along with the applicable referenced portions of the Uniform Building Code by the International Conference of Building Officials (ICBO), 5360 South Workman Mill Road, Whittier, California 90601, telephone (310) 699-9541.

9. Plumbing and Mechanical Codes (Titles 28 and 29 of the County Code)

   The Plumbing and Mechanical Codes (Titles 28 and 29 of the County Code) are published separately from the complete set of County Codes along with the applicable referenced portions of the Uniform Plumbing Code and Uniform Mechanical Code and appear in one publication.

   The Plumbing Code is published by the International Association of Plumbing and Mechanical Officials located at 20001 South Walnut Drive, Walnut, California 91789, telephone (818) 595-8449. The Mechanical Code is published jointly by this organization and ICBO. (For the address of ICBO, see Item 7 above.) They often appear in a loose leaf binder together.

10. Fire Code (Title 32 of the County Code)

    The Fire Code (Title 32 of the County Code) is published separately from the complete set of County Codes along with the applicable referenced portions of the Uniform Fire Code by

ICBO and the Western Fire Chiefs Association. (See Item 7 above for their address and telephone number.)

11. Electrical Code (Title 27 of the County Code)

The Electrical Code (Title 27 of the County Code) is published separately from the complete set of County Codes along with a "National Electical Code" (NEC) which is incorporated herein by reference. The NEC is sponsored by the National Fire Proctection Association (NFPA).

12. Standard Plans for Public Works Construction

The "Standard plans for Public Works Construction" is published by Building News, Inc. (For the addresses of the publishers, see Item 2 above.)

II. State Codes and Permits

State Codes have precedence over the County Code and Department Policies when there is a conflict. Copies are available from the following known sources:

A. State Codes (Complete Set)

There are two companies that publish the State Statute Codes. Deering California Codes is published by Bancroft-Whitney Company, 3250 Van Ness Avenue, San Francisco, California 94109, telephone (415) 929-3500. West California Codes are published by West Publishing Company, 50 West Kellogg Boulevard, P.O. Box 64526, St. Paul, Minnesota 55164-0526, telephone (800) 328-9352 or (612) 228-2973.

State Statutes are those acts passed by the legislature. In addition, the State legislature permits State agencies to adopt regulations which have the same force of law as a statute. These regulations are in the California Code of Regulations. The California Code of Regulations, formerly the California Administrative Code, is published by Barclays Law Publishers, 400 Oyster Point Boulevard, P.O. Box 3066, South San Francisco, California 94080, telephone number is (818) 244-6611.

B. Subdivision Map and Professional Engineers and Land Surveyors Acts

Sections of the California State Codes are published by the California Council of Civil Engineers and Land Surveyors, 3050 Beacon Boulevard, Suite 204, West Sacramento, California 95691, telephone (916) 371-2266. This organization publishes the Subdivision Map Act along with pertinent section of other codes that affect subdivisions and the Professional Engineer's Act.

C. State Building Standards and Codes

The State Building Standards and Codes [Title 24 of the Code of Regulation (Administrative Code)] are published by the State Building Standards Commission and are distributed by the State of California, Documents Section, P.O. Box 1015, North Highlands, California 95660.

D. Water Well Standards

Water well standards are presented in Bulletin 74-81 of the Department of Water Resources. Copies of this bulletin are available from: State of California, Department of Water Resources, P.O. Box 388, Sacramento, California 95802.

E. State of California Permit Procedures

The State of California has issued the "California Permit Handbook". This handbook describes what permits are required from the State and the procedures for obtaining them. The stock number of this handbook is 7540-931-1026-8 and can be obtained from the State of California General Services, Publication Section, P.O. Box 1015, North Highlands, California 95660, telephone (916) 322-3784. For information regarding a state permit, the Office of Permit Assistance at 1400 Tenth Street, Sacramento, California 95814, telephone (916) 322-4245 should be contacted.

III. Federal Agency Permits and Publications

The following Federal Agencies issue permits or issue data that affects land development:

A. Flood Insurance and Hazard Regulation

1. Federal Emergency Management Agency (FEMA) Region IX
Building 105
Presidio of San Francisco
San Francisco, California
(415) 556-9841

For ordering maps and other publications, call (800) 333-1363.

2. U.S. Army Corps of Engineers Channels and Reservoirs

U.S. Army Corps of Engineers
Los Angeles District
300 North Los Angeles Street
Los Angeles, California 90012
(213) 688-5607

or

P. O. Box 2711
Los Angeles, California 90053

The Los Angeles District publishes an Operation and Maintenance Manual, LADM No. 1130-2-13 which governs the modification of their facilities. (See Chapter 55 of this Manual.) The review procedures are in the "Flood Control Projects Manual".

B. Federal Documents (General)

Government Printing Office - Los Angeles Book Store
ARCO Plaza - Level C
505 So. Flower St.
Los Angeles, California 90017
(213) 894-5841

C. Federal Topographic and Geologic Maps, and Geologic and Water Resource Publications

Earth Science Information Center
345 Middlefield Road, M.S. 532
Menlo Park, California 94025-3591
(415) 329-4390

D. Surface Soil Information

Soil Conservation Service
805 West Avenue J
Lancaster, California 93534
(805) 945-2604

IV. Uniform Codes and Standards

Uniform Codes serve as Model Codes for the both State and the County. Most Codes refer to standards. They are as follows:

A. The "Uniform Building Code" is available from ICBO noted in Item I.G.8 on Page 50-7.

B. The "Uniform Plumbing Code" and the "Uniform Mechanical Code" are available from the organizations noted in Item I.G.9 on Page 50-7.

C. The "Uniform Fire Code" is available from the organizations noted in Item I.G.10 on Page 50-7.

D. The National Fire Code is available from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts 02269-9959, telephone (800) 344-3555.

E. The County Electrical Code (Administrative Section and National Electrical Code) is available from the Building News, Inc., Book Store/Publisher, 3055 Overland Avenue, Los Angeles, California 90034, telephone (213) 202-7775.

F. "A Policy on Geometric Design of Highways and Streets" is published by the American Association of State Highway and Transportation Officials, Suite 225, 444 North Capitol Street, N.W., Washington, D.C. 20001, telephone (202) 624-5800.

G. American Water Works Association (AWWA) Standards are used for most piping and water industry equipment and procedures. Copies are available from the American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado 80235, telephone No. (303) 794-7711.

H. American Society for Testing Materials (ASTM) prepare many standards that are used in the Codes and Standard Specifications. Copies of these standards are available from them at 1916 Race St., Philadelphia, PA 19103, telephone (215) 299-5400.

I. TICOR Company prepares a title handbook annually. Copies of this handbook are available from their publications division. The address is 1777 Walnut Grove Avenue, Rosemead, California 91770.

V. Standard Drawings and other Publications from State Agencies

The following additional agencies issue standard drawings and publications that may have to be incorporated into the land development process:

A. California Department of Transportation
District 7
120 South Spring Street
Los Angeles, California 90012
Attention: Permit Engineer
(213) 620-2206

or

P.O. Box 2304, Terminal Annex
Los Angeles, California 90051

B. Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, California 90601
(213) 699-7411, Extension 417

The publication "Information and Instructions for Obtaining an Industrial Wastewater Discharge Permit" dated March 1990 can be obtained here. (See Chapters 46 and 59 of this Manual.)

C. Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, California 91301
(818) 880-4110

D. Newhall County Water District
24356 San Fernando Road
Newhall, California 91321
(805) 259-3610

E. California Division of Mines and Geology
Los Angeles District Office
107 So. Broadway, Room 1065
Los Angeles, California 90012
(213) 620-3560

F. Governor's Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814
(916) 445-4831

The Publication, "Tracking CEQA Mitigation Measures Under AB 3180," can be obtained here. (See Chapters 28 and 51 of this Manual.)

G. California Regional Water Quality Control Board - Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754
(213) 266-7564.

This Board controls development where there are private waste disposal systems. (See Chapter 24 of this Manual.)

VI. Standard maps and Sheets for Design Work

Mr. Gaspar Martinez, Jr., 8445 Vicki Drive, Whittier, California 90606, telephone (213) 699-8440 produces a series of sheets and maps for final maps, road plans, private contract sewers and private drains. These sheets include the title sheets or page one and contain the Department's standard notes. However, the designer should review the standard notes and the appropriate Chapters of this Manual to verify that the notes on the drawings sold by Mr. Martinez are current.

At the present time we know of no other source of standard sheets for use for design work for commercial sale.

VII. Commercially Produced Computer Software

The following commercially produced software for the IBM and compatible personal computers are acceptable to the Department:

A. Woodcrest Engineering
15790 Rancho Viejo Drive
Riverside, CA 92506
(800) 843-9012

B. Civil Soft
1592 North Batavia Street, Suite 1A
Orange, California 92668
(714) 974-1864

The Department accepts the "Modified Rational Hydrology Program (PC Version)", No. F0601 and the "WSPG - Storm Plus".

VIII. Local Sources for Publications

Building News, Inc. has a retail store that specializes in the sale of County and State Codes or other publications that are useful to the land development industry (See Item I.G.2 on Page 50-6 regarding address and telephone number).

CHAPTER 51

DRAFT

CODES AND ENVIRONMENTAL DOCUMENTS

The referenced codes and environmental documents in this Manual are the rules in which all land development must follow. It is the responsibility of government to enforce all codes and other regulations. The Department of Public Works has been delegated by the Board of Supervisors to provide specific services including enforcement of land development. (See Chapter 2 of this Manual.) The Director of Public Works has delegated certain enforcement assignments to various Divisions including Land Development Division. (See Chapters 3 through 8 of this Manual.) Item I of this Chapter describes the organization of the various laws that apply to the Land Development process. Item II describes the applicable environmental documents that establish enforcement procedures described in Chapters 9 and 28 of this Manual. Item III describes how to use the State and County Building Codes described in Parts II, III and IV of this Manual. The Electrical, Plumbing, Mechanical and Fire Codes are also organized in a similar manner.

I. Codes

All laws that govern us are either a part of a constitution, charter or code. Occasionally there are uncodified acts that also affect us. The following is a brief description of the organization of various Codes and other documents that have force of law and how to locate and reference specific legal passages.

A. United States Constitution

This document defines and limits the powers of the Federal Government over the State Governments. The 14th Amendment gives limited Federal authority in State matters.

B. Federal Code

All legislation adopted by the Federal Government in accordance with the U.S. Constitution (see Item A) is organized into the United States Code (USC).

This Code is divided up into and referenced by Title and Section.

C. Federal Regulations

The Code of Federal Regulations (CFR) contains all rules and regulations issued by the executive branch agencies as authorized by Congress and the President. They are listed by title and by section. Executive Orders by the President are listed by Number and Date.

The Federal Register lists all Executive Orders by the President, and proposed and adopted regulations by the Executive Branch Departments and Agencies.

D. California Constitution

This is the supreme law of California. It defines how the State will operate. This includes all governmental agencies except Federal Agencies in California. Of primary interest to this Department and the Land Development industry is Article XI which covers local government.

The Constitution is divided up into and referenced by Article and Section.

E. Statute Codes

Statute Codes can only be amended by an act of the State Legislature or by referendum of the electorate. Acts are usually approved by both Houses of the Legislature and signed by the Governor, or if vetoed by the governor, passed by both Houses by at least a two-thirds majority. A statute established by referendum can only be modified by referendum.

Typical California Statute Codes of interest to Civil Engineers are as follows:

1. Business and Professions; 2. Civil; 3. Criminal; 4. Fish and Game; 5. Government; 6. Health and Safety; 7. Highway; 8. Labor; 9. Public Resources, 10. Public Works; 11. Vehicle, and 12. Water.

In researching laws, the main body of the Code must be searched and the desired section located. Then the supplement at the rear of the Code Book must be searched for the latest amendments since the Code book was published.

References must be made to the specific code and section. Parts, articles, chapters and subchapters may also be used for referencing several sections.

F. Uncodified Acts

Many early statutes or enabling Legislation were not codified. They are usually located in front of the related State Code.

Typical Uncodified Acts associated with the Water Code of interest to the civil engineer are as follows:

1. Act 2200 "Drainage Law of 1885".

2. Act 4284 "Formation of Levee Districts and Erection of Protection Works".

3. Act 4463 "Los Angeles County Flood Control".

4. "Madera County Flood Control and Water Conservation Agency.

These acts have the same force of law as the Statute Codes described above.

References must be made to the specific act and section.

G. Code of Regulations

The Code of Regulations contain acts or regulations issued by State Agencies. Formerly known as the "Administrative Code", these regulations must be authorized by Statute Law. The Code Regulations are divided up into Titles and then Chapters.

Typical Titles of the Code of Regulations of Interest to the Civil Engineer and others are as follows:

1. Title 14, Chapter 8 "Mining and Geology", 2. Title 16 "Regulatory Boards" and 3. Title 14 "Building Standards". Item "3" above contains the adoption of the Uniform Building Code and the State Code amendments.

Reference must be made to the specific title in the Code of Regulations and Section. Divisions, chapters and subchapters may also be used for referencing.

H. State District Laws

Many State self-governing Districts are permitted by statute to issue their own laws. Of interest to the Department of Public Works is the "Los Angeles County Flood Control District Code" which is published behind Title 20 "Utilities" in the Los Angeles County Code. This Code is organized in the same manner as the County Code (See Item J below.)

I. County Charter

The County Charter is the fundamental County Law. It was approved by the Voters and State Government in accordance with the State Constitution. This document describes how the County Operates, the powers of the Board of Supervisors, the powers of other County Officers other than Supervisors, etc.

J. County Code

Most laws of the County of Los Angeles are placed in the County Code. These laws are authorized in the County Charter or by State Code. The County Board of Supervisors can only enact laws on subjects that are authorized by the State Code or in areas not specifically preempted by State Law.

The laws of the County of Los Angeles are adopted by the Board of Supervisors by an ordinance which amends the County Code. The County Code is divided into Titles and then Divisions. Of interest to Land Development Division are the following Titles:

1. 2."Administration".
2. 5."Personnel".
3. 16."Highway".
4. 20."Utilities".
5. 21."Subdivision".
6. 22."Zoning".
7. 26."Building".
8. 27."Electrical"
9. 28."Plumbing".

10. 29."Mechanical".
11. 32."Fire".

References must be made to a specific title and section. Divisions and Chapters may also be referenced.

II. Environmental Documents and Regulations

Environmental documentation procedures discussed in Chapters 9 and 28 of this Manual are based on the requirements of the California Environmental Quality Act (CEQA) of 1970 which is Division 13 "Environmental Quality" (beginning with Section 21000) of the California Public Resources Code. This Division in this Code sets specific definitions of environmental terms and assigns procedures and responsibilities to State and Local Agencies in protecting the environment.

The State of California has prepared guidelines discussing implementation of the CEQA including presenting general responsibilities, authorities and local agency determinations and responsibilities. These regulations are in Title 14, Division 6, Chapter 3, Article 1 (beginning with Section 1500) and Article 4 (beginning with Section 1550) of the California Code of Regulations (Administrative Code).

The Governor's Office of Planning and Research has issued a document titled "Tracking CEQA Mitigation Measures Under AB 3180" (see Chapter 50 of this Manual). This document details state and local government responsibilities in regard to verifying that environmental conditions of development approval have been met during and after development. This includes establishing a Reporting or Monitoring program. This document is available for reference in the Division Administration files.

The Board of Supervisors adopted a policy statement titled "Environmental Document Reporting Procedures and Guidelines" on November 17, 1987. This document discusses the implementation of CEQA for local projects, distinguishes which projects are exempt from CEQA and procedures for evaluating the potential effects of a project on the environment. It is the responsibility of the lead agencies such as the Departments of Regional Planning, Public Works and Internal Services within County government to insure that the mitigation measures, if any, are reflected in the improvement plans. This document is available for reference in the Division Administration Files and for purchase at the Land Development Coordinating Center public counter at the Regional Planning Department (See Chapter 50 of this Manual).

III. Building Codes

The State Building Standards Commission has adopted the 1988 Edition of the Uniform Building Code (UBC) with amendments. There are two sets of amendments. One set of Chapters contain amendments that are essentially minimum standards and are designated as the same chapter and section as the UBC. The second set of Chapters contains more stringent amendments for State Capital Projects. These Chapters are designated with an "A". There is a table in the Code designating by Chapter and Section which agency uses what set of amendments. In general local agencies do not adopt the "A" Chapters.

In referring to the State Building Code the following procedure must be followed:

A. Consult with the UBC to determine the desired section(s) for enforcement purposes.

B. Consult with the State Building Code. It has the same page numbering systems as the UBC. If that page number from the UBC is present, the State has amended that page in the UBC. If it is not, the State has adopted the UBC page as the minimum standard.

C. Check with the table in State Code to determine if the State Housing Commission has adopted the section presented in Chapter "A". If not, no further review is required. If so, use Chapter "A" amendments for enforcement which begin with the last page number in the UBC chapter followed with a decimal point and a number. The amended section will be found there.

The Los Angeles County Building Code that is published by Building News, Inc. is organized much in the same manner. This loose-leaf book can be organized in two ways. The amended portions remain in front of the UBC, or the amended page numbers merged with the same page numbers in the UBC.

CHAPTER 52

SUBDIVISIONS

DRAFT

Subdivision map procedures, minimum standards and approvals as discussed in Chapters 11, 12, 13, and 29, must meet the requirements of both State and County Codes with the State codes requirements being the superior requirement should there be conflicts. The codes are as follows:

A. State Constitution and Codes

1. State Constitution

Article XIII A, "Tax Limitation Initiative" (Proposition 13) of the California Constitution limits the amount of property tax increases by controlling property assessment practices.

2. Business and Professions Code

Division 3 "Professions and Vocations Generally" regulates the professions associated with the subdivision process. The following Chapters contain basic regulations:

a. Chapter 7 - Professional Engineers

This Chapter contains the professional responsibilities of Civil and Geotechnical Engineers. The statutes are further clarified in the Code of Regulations (formerly Administrative Code). (See Item 8.) Chapter 61 of this Manual contains detailed information regarding the practice of Geotechnical Engineering.

b. Chapter 12.5 - Geologists and Geophysicists

This Chapter contains the professional responsibilities of Geologists and their qualifications. The statutes are further clarified in the Code of Regulations. Engineering geologists are discussed in the Code of Regulations. Chapter 61 of this Manual contains detailed information regarding the practice of geology.

c. Chapter 15 - Land Surveyors

This Chapters contains the professional responsibilities of registered land surveyors and civil engineers authorized to practice land surveying. (See Item a above.) Civil Engineers registered before January 1, 1982 are exempt from registration as a land surveyor. Those registered after that date must become registered as a land surveyor by taking the second examination (Section 8731). A civil engineer may perform surveying to locate the alignment or elevation of fixed works or establish contours (Section 6731.1).

Section 8726 defines land surveying as in general locating property lines or establishing property lines. This includes subdivision work. The requirements for survey maps, including final tract maps are covered by this Act (Sections 8762 through 8766).

3. Civil Code

Division 2 "Property" is devoted to regulating property. Part 1 "Property in General" contains provisions that define property and how it is owned.

Part 2 "Real or Immovable Property" contains provisions related subdivisions of land and the selling of land. In this Part 2, Title 3, "Rights and Obligations of Owners" presents the information regarding owners, tenants and adjacent property owners. It contains provisions for the definition of property lines in public ways and in public waters. There are also provisions for lateral support of adjacent property and trees whose trunks are wholly on land of one and are on the property line.

Part 4 "Acquisition of Property" contains provisions regarding the purchase of land or other immovable property. Title 4 "Transfer" contains provisions regarding recording of property ownership changes.

4. Fish and Game Code

Section 1505 of the State Fish and Game Code contains the provisions for fishing rights within a subdivision. Sections 1601 and 1603 of the same Code describe the procedures for obtaining approval from the State for altering a water course that may affect existing fish or wildlife. Section 1.72 of Title 14 of the Code of Regulations defines streams as used in the Fish and Game Code.

5. Government Code

a. Title 3 - Government of Counties

Division 2 "Officers," beginning with Section 24000, defines the responsibilities of County officers. Part 2 "Board of Supervisors," beginning with Section 25000, defines the responsibilities of the Boards of Supervisors throughout the State. Chapter 7 "Public Resources" defines the responsibility of Boards of Supervisors regarding the protection of public resources. Sections 25660, 25661 and 25662 of this Chapter details regulations regarding fishing rights within waterways on or adjacent to a subdivision that must be enforced by the Board of Supervisors of a County.

b. Title 5 - Local Agencies

This title, beginning with Section 50001, defines the powers of local governments. Division 2 "Cities, Counties and Other Agencies," Part 1 "Powers and Duties Common to Cities, Counties and other Agencies," beginning with Section 53000, contains provisions for financing government facilities necessitated by new development. The following Chapters are of interest:

1/ Chapter 2.5 - The Mello-Roos Community Facilities Act

This act beginning with Section 53311 was established to provide an alternative method of financing certain public capital facilities and services, especially in developing areas and areas undergoing rehabilitation. The following Sections in Article 1 "General Provisions" are of interest:

a/ Section 53311.5 - Provision of Alternative Method of Financing Public Capital Facilities and Services

This Section defines the purpose of the Act described above. This Section allows a local government to use the provisions of this Chapter instead of any other method of financing part or all of the cost of providing the authorized kinds of capital facilities and services.

b/ Section 53312 - Conflicting Provisions of Other Laws

This Section states that any provision in this Chapter which conflicts with any other provision of law shall prevail over the other provision of law.

c/ Section 53312.5 Actions and Determinations of Local Agency

This Section permits any local agency to take any actions or make any determinations necessary or convenient to carry out the provisions of this Chapter.

d/ Section 53313 - Services Which May Be Provided

This section defines specifically the services that may be established under this Chapter.

e/ Section 53313.5 - Types of Facilities

This Section allows a community facilities district to finance the purchase, construction, expansion, improvement or rehabilitation of any real or other tangible property with a useful life of five years or longer or may finance planning and design work which is directly related to the project. This includes any facility authorized by law for the local agency to own plus public utilities and rehabilitating private property.

f/ Section 53316 - Applicant of Chapter

This Section states that this Chapter applies to all local agencies that have the power to install or contribute revenue to the facilities and services permitted by this Chapter.

g/ Section 53317 - Definitions

This Section contains definitions applicable to this Chapter.

Article 4 "Procedures for Levying," beginning with Section 53340, contains Sections defining allowable procedures for the collection of Taxes.

Article 4 "Bonds," beginning with Section 53345, contains Sections regarding the establishment of Bond Issues and the procedures for the issuance of these Bonds to finance the district.

2/ Chapter 6.4 - Benefit Assessment Act of 1982

This Chapter, beginning with Section 54703, permits local agencies to assess properties in accordance with the provisions of this Chapter for services rendered instead of collecting taxes which are for general benefit. The following Articles and Sections are of interest:

a/ Article 1 - General Provisions

This Article, beginning with Section 54703, contains the goals of this Chapter. Section 54703.1 "Legislative Findings and Declarations" notes that assessments are to benefit individual properties while taxes provide general benefit. Section 54703.3 "Purpose of Chapter" notes that this Chapter is a recodification and supplements previously enacted provisions of law.

b/ Article 2 - Definitions

This Article, beginning with Section 54705, contains definitions that are applicable to this Chapter.

c/ Article 3 - Authorization: Requisites for Assessment

This Article, beginning with Section 54710, notes the limitations for which benefit assessments can be applied. Section 54710 "Services for Which Assessment may be Imposed" limits benefit assessments to finance the maintenance and operation costs of (1) Drainage, (2) Flood Control and (3)

Street Lighting. In addition benefit assessments can be levied for street, road and highway maintenance.

Section 54710.3 "Assessment by Local Agency Obligated to Advance Funds to Cure Bond Redemption Fund Deficiency" permits an assessment to redeem bonds issued under the Section 8769 (a) of the Streets and Highway Code not to exceed $30 per parcel.

Section 54710.5 "Additional Assessments" allows assessments to be used to finance the cost of installation and improvement of facilities authorized under this Chapter (Section 54710).

Section 54711 "Requirements for Levy of Assessment" states the requirements that must be met in order to levy an assessment.

d/ Article 4 - Procedure for Imposition of Benefit Assessment

This Article, beginning with Section 54715, contains the procedures that must be followed by a local agency in imposing a benefit assessment district on an area.

c. Title 7 - Planning and Land Use

This Title, beginning with Section 65000, is the basic document that governs land use in this State. This Title is divided into two Divisions as follows:

1/ Division 1 - Planning and Zoning

This Division, beginning with Section 65000, is the basic document that sets planning and zoning policies for the State and local agencies. This Division states what can be established in the Code of Regulations and in local agency statutes such as in Title 22 of the County Code. (See Item B.2.)

2/ Division 2 - Subdivisions

This Division (a.k.a. Subdivision Map Act), beginning with Section 66410, governs the approval of all subdivisions by a local agency. This Division states what can be established in the code of Regulations and in local agency statutes such as in Title 21 of the County Code. (See Item B.1.)

This Division and other associated Code provisions described in this Division detail the minimum procedures for preparing a subdivision within California. It contains minimum requirements for tentative and final tract and parcel maps. Minimum improvement requirements and the authorities of local agencies are presented.

All improvements must be performed by a civil engineer. A soil report is required for every subdivision unless waived by the local agency. Final tract and parcel maps only be prepared by a person licensed to do land surveying.

3/ Divisions 3 - Official Maps

This Division, beginning with Section 66499.50, contains regulations applying to all Counties and other local agencies regarding the preparation and maintenance of "Official Maps". It spells out the responsibilities of the professional land surveyor in supplying information for the "Official Maps".

6. Harbors and Navigation Code

Sections 100 through 106 of the Harbor and Navigation Code contains the requirements for subdivisions on/or adjacent to navigable waters.

7. Revenue and Taxation Code

In order to implement Article XIII A of the California Constitution, Part 0.5 "Implementation of Article XIII A of the California Constitution" (S.B. 813) of the Revenue and Taxation Code, was established by the Legislature to meet the requirements imposed by Proposition 13. This Part 0.5 sets the procedures in which property is reassessed for property tax purposes. To do this, the County Assessor must have the information presented in the "Bond Estimate Declaration" presented in Chapter 12 of this Manual. The "Property Assessment Affidavit" in this Chapter 12 is utilized to make a determination if the "Bond Estimate Declaration" is required as part of the subdivision recordation process. This part defines which property ownership transfers are exempt from reassessment for property tax purposes.

Part 2 "Assessments", Chapter 2 "Legal Descriptions of Lands for Assessment Purposes" contains property description requirements affecting taxes collected during the process of subdividing land. All property legal descriptions must be in accordance with this Part 2.

8. Code of Regulations (Administrative Code)

a. Title 14 - Natural Resources

Section 1.72 defines streams as used in the Fish and Game Code.

b. Title 16 - Professional and Vocational Regulations

1/ Division 5 - State Board of Registration for Professional Engineers and Land Surveyors

Chapter 5 in this Division defines more precisely the statutes in the Business and Professions Code as follows: (See Item 2 above.)

a/ The practice of Civil and Geotechnical Engineering and Land Surveying is specifically defined as to limitations of professional practice by registered persons and the areas of exclusive practice by registered persons.

b/ The preparation of subdivision maps

The preparation of surveys and locating monuments for final subdivision maps.

2/ Division 29 - State Board of Registration for Geologists and Geophysicists.

This Division clarifies the statutes regarding the practice of Geology and Geophysics. Of interest to the subdivider is Article 4 "Specialties." The Article defines specialties in geology such as engineering geology. (See Chapter 61 for more details.)

B. County Codes

The following County codes affecting subdivision map processing, criteria and approvals are as follows:

1. Title 8 - Consumer Protection and Business Regulations

Division 3 "Housing" regulates housing in Los Angeles County. Chapter 8.48 "Condominium

Conversion" contains procedures and requirements for converting existing structures into condominiums.

2. Title 20 - Utilities

Division 1 "Water" regulates water distribution within Los Angeles County. (See Chapter 60 of this Manual regarding regulations.)

Division 2 "Sanitary Sewers and Industrial Waste" regulates the construction of private contract sewers and the handling of industrial waste in Los Angeles County. (See Chapter 59 of this Manual regarding regulations.)

Division 5 "Flood Control District Property and Facilities" regulates the public use of property deeded or under the control of the Flood Control District. This includes easements. (See Chapter 55 of this Manual regarding regulations.)

3. Title 21 - Subdivision

This Title contains all the local requirements regarding the processing of a subdivision map and what improvements are required. It is used with the State codes in Item A.

The following Chapter and Section within this Code contain authority for procedures in this Manual:

Chapter 21.36 – Bond and Deposits

This Chapter contains the requirements for recovering the County's costs for administrating the subdivision approval process.

Section 21.36.010 – Deposits for Plan Check, Inspection and/or Review or Final Clearance Documents

This Section gives the Department authority to collect sufficient funds to recover its costs in administering the above listed functions.

4. Title 22 - Planning and Zoning

This Title contains the requirements of the zoning on land within the County. A proposed subdivision must define its use to be in compliance with zoning regulations.

5. Title 32 - Fire

This Title is the Uniform Fire Code with modifications. Provisions within this Code govern subdivision development in regards to providing sufficient access for fire equipment and water to fight fires. (See Chapter 60 of this Manual.)

C. Flood Control District Code

The Los Angeles County Flood Control District is governed by its own code which is attached to Title 20 of the Los Angeles County Code. Of interest to the subdivision process are the following Chapters and Sections:

1. Chapter 17 - Fees for Miscellaneous Services

This Chapter contains fees for the services that the Flood Control District is required to perform under other Codes and for the management of its assets.

a. Section 17.03, "Definitions," contains definitions of all the services that the District is required to perform. Paragraph E. specifically defines the subdivision map and improvement plan review function.

b. Section 17.05, "Fees for Services – Cost determination and Collection." This Section contains the procedure for Flood Control District to collect fee and deposits for its services. The Department of Public Works serves as the agent for the Flood Control District. This Department performs all duties delegated to the Flood Control District. The fees and deposits are established for the different types of drainage within a subdivision.

D. Legal Decisions and Court Opinions

There are many legal decisions and court opinions referenced throughout the published State Codes. The decision known as "Building Industry Association of Southern California vs. City of Oxnard," affects the Subdivision process. This decision spells out how a local agency can establish fees to pay for capital improvements required to provide service to the development.

DRAFT

CHAPTER 53

GRADING PLANS AND PERMITS

Grading plan approval procedures and standards as described in Chapters 14, 30 and 31 of this Manual and grading permit procedures as described in Chapter 15 of this Manual must meet the requirements of both State and County Codes with the more restrictive requirements taking precedent should there be conflicts. The California Code permits, in some instances, local agencies to adopt more stringent requirements in their codes. The Codes applicable to grading are as follows:

A. State Codes

1. State Building Code (Health and Safety Code and Code of Regulations)

   In 1979 the State Building Standards Law took effect. This law is Part 2.5 of the Health and Safety Code (Sections 18900 through 18949). This law established the Building Standards Commission which has been given the responsibility for establishing a State Building Code which includes grading, approving Building Codes established by State agencies and hearing appeals regarding conflicts that have statewide significance. The State Building Standards law shall not limit the authority of any local agency to establish more restrictive building standards when that authority is provided in other provisions of law (Section 18941.5).

   The State Building Code shall be binding on the state and other public agencies including federal agencies to the extent permitted by federal law, in the same manner as it binds private parties or entities (Section 18944.4).

   The State Building Code is Title 24, Part II of the California Code of Regulations (Administrative Code). Basically, the State Code has adopted the Uniform Building Code as the minimum standards that a local agency must meet. Chapter 70, which covers grading, is in the appendix of that Code. Pursuant to Section 17957 of the State Health and Safety Code, the County may enact an ordinance prescribing an alternate procedure which is equal to or more restrictive than the procedure specified in Sections 179853, 179854, and 179855 of this Code. These Sections cover preparation of soil reports.

2. Who Can Perform Grading Designs? (Business and Professions and Government Codes)

   The California Codes are very specific as to who can and who cannot perform grading design work. On February 10, 1989 the Board of Architectural Examiners issued Building Official Information Bulletin 89-01 stating that architects under their interpretation of the California Code could sign site grading plans. Since the issuance of this Bulletin, the California Code has been modified. The applicable sections of the current California Codes are as follows:

   a. Section 66456.2 of the California Government Code (Subdivision Map Act) requires that "an improvement plan being processed in conjunction with either an approved tentative, parcel, or final map shall be prepared by a registered civil engineer..."

   b. Section 5500.1 of the California Business and Professions Code (B&PC) defines the practice of architecture ... "as offering or performing or being responsible for, professional services which require the skills of an architect in the planning offsites, in the design in whole or in part, of buildings or groups of buildings and structures." This permits the architect to submit site plan layouts as part of a building or groups of building and structures being prepared by the architect. The layout must be incidental to the building design. Nowhere in the Architecture Chapter of the California Business and Professions Code does it state that

drainage, geotechnical engineering, hydraulic engineering or hydrology can be practiced by the architect. These subjects are often part of grading design.

c. Section 6731 and 6731.1 of the B&PC defines civil engineering as embracing studies or activities in connection with fixed works for drainage. Civil engineering also includes the practice or offer to practice either in a public or private capacity, all of the following:

1/ Locates, relocates, establishes, reestablishes or retraces the alignment or elevation for any of the fixed works embraced within the practice of civil engineering as described in the previous section.

2/ Determines the configuration or contour of the earth's surface or the position of fixed objects thereon or related thereto, by means of measuring lines and angles, and applying the principles of trigonometry or photogrammetry. This section of the code cannot apply to architects because it has no connection with any building or structure.

d. Section 6737 of the B&PC states that "An architect, who holds a certificate to practice architecture in this State under the provisions of Chapter 3 of Division 3 (Architecture) of this code insofar as he practices architecture in its various branches, is exempt from registration under the provisions of this Chapter (Professional Engineers)."

3. Rights of Property Owners

Title 3 "Rights and Obligations of Owners" of the California Civil Code defines the responsibilities and rights of property owners. Of particular interest is Section 832 of this Code. This Section titled "Lateral and Subjacent Support" contains provisions that prohibit a property owner from undermining or rendering unstable adjacent property.

B. County Codes

The following Codes affect grading:

1. Title 26 (Building Code)

Title 26 of the County Code contains most of the ordinances that apply to grading. Specific Chapters and sections that affect the grading plan approvals are as follows: Section 308, Section 309, Section 310, Section 311, Chapter 70 and Chapter 71. Occasionally, portions of Chapters 23 and 29 apply to grading.

2. Title 22 (Zoning Code)

Title 22 of the County Code contains many regulations that affect grading and other types of construction. As noted in previous chapters, this Code contains requirements for grading projects both on-site and off-site. The protection of Oak Trees and Oak Tree Permit requirements are in Part 16 - Chapter 22.56.

3. Title 21 (Subdivision Code)

Title 21 of the County Code contains regulations regarding the grading of flag lots and fire access roads. (Sections 21.24.320 and 21.14.220, respectively.)

4. Title 32 (Fire Code)

   Title 32 of the County Code contains regulations for providing fire equipment access that must be addressed in a grading plan. Of interest is Section 10.207 which sets standards for private driveways and fire access roads.

C. County Policies

County policies regarding grading plan approval are in Chapters 14 and 30 of this Manual. County policies regarding the administration of grading operations are in the Building Code Manual prepared by Building and Safety/Land Development Division and in Chapter 15 of this Manual where grading operations apply to Building and Safety/Land Development Division.

Section 50.05 of the Building Code Manual contains procedures for the Drainage Review of small Building and Grading Plans as defined in this Section. Section 70.21 of that manual clarifies minimum pad drainage standards as required by the Building Code.

The policy documents presented on the following pages have been issued to clarify procedures. They are as follows:

TO: DRAINAGE AND GRADING SECTION April 25, 1986

FROM: Rod Kubomoto
Section Head

SUBJECT: ROUGH GRADING PLANS
ALUVIAL REMOVAL AND RECOMPACTION PLANS
FILL STOCKPILE/DISPOSAL PLANS

THIS IS TO RECONFIRM OUR POLICIES RELATIVE TO THE CONDITIONS THAT MUST BE VERIFIED BY STAFF PRIOR TO APPROVAL OF THE SUBJECT PLANS:

1. Plans must meet Chapter 70, Building Code requirements.

2. Will require Soils and Geology Section approval (if necessary).

3. Plans must have standard grading and drainage notes on the title sheet.

4. A temporary erosion control plan is necessary for work proposed during the storm season period October 15 - April 15.

5. Cost estimates to establish inspection fees and bonding and any offsite grading and/or drainage release letters must be submitted.

6. The plans must reflect consistency with the approved tentative map although detailed lot lines are not mandatory.

7. Verify that there is an approved tentative map and an environmental assessment has been made. Otherwise, if the grading work exceeds 100,000 cubic yards, a Conditional Use Permit (CUP) is necessary from the Regional Planning Department.

8. Approved Hydrology (as needed) for the proposal.

9. Drainage approval - adequate devices in addition to Chapter 70 requirements which will be privately maintained and bonded for with the grading plan. In some cases, the Private Drain (P.D.) may be required.

10. Any permits from other public agencies having jurisdiction. (i.e., State Fish and Game Permit, Section 404, Permit from the Corp of Engineers.

The plans should be evaluated essentially as if they were final, finished, grading plans. The drainage review would be primarily associated with protecting the grading from eroding and not adversely affecting upstream adjacent and downstream properties and watercourses. In some cases, drainage solutions may be more complex than in the finished final developed conditions.

The developer may indicate that the proposal is an interim condition and that they are actively processing the final grading and improvement plans. However, we must assume, if he does not proceed, that the interim plans can stand on their own relative to grading and drainage issues.

RKmemo1

May 4, 1987

TO: Drainage and Grading Section

FROM: Rod Kubomoto
Section Head

GRADING PLANS - X-LOT DRAINAGE GUIDELINES

Cross lot drainage is to be avoided. Design of the subdivision should accommodate sound engineering judgment to minimize these conditions. Cross lot drainage may be allowed at the discretion of this Section for:

1. Drainage terraces of manufactured slopes (downdrains shall be located entirely on one lot).

2. Drainage when in sheet flow conditions off natural slopes because it would be necessary in order to collect the flows.

The number of lots acceptable is determined by the plan checker and takes into account the capacity of the outlet. Cross lot drainage is not acceptable for drainage when in concentrated flow conditions off of natural slopes.

May 6, 1987

TO: Drainage and Grading Section

FROM: Rod Kubomoto
RHK Section Head

GUIDELINES FOR "FLAT PADS"
TRACT GRADING FOR RESIDENTIAL LOTS.

Section 7018 (c) of the 1984 Building Code states:

> "Site drainage. Graded building sites (building pads) shall have a minimum slope of two per cent towards a public street or drainage structure approved to receive storm waters..... etc."

The Building & Safety Division in order to accommodate requests by the building industry, has devised a "Flat Pad" policy so that buildings can be constructed immediately after rough grading. The attached drawings depict "Flat Pads" as an interim measure only, so as to not conflict with the intent of the Building Code.

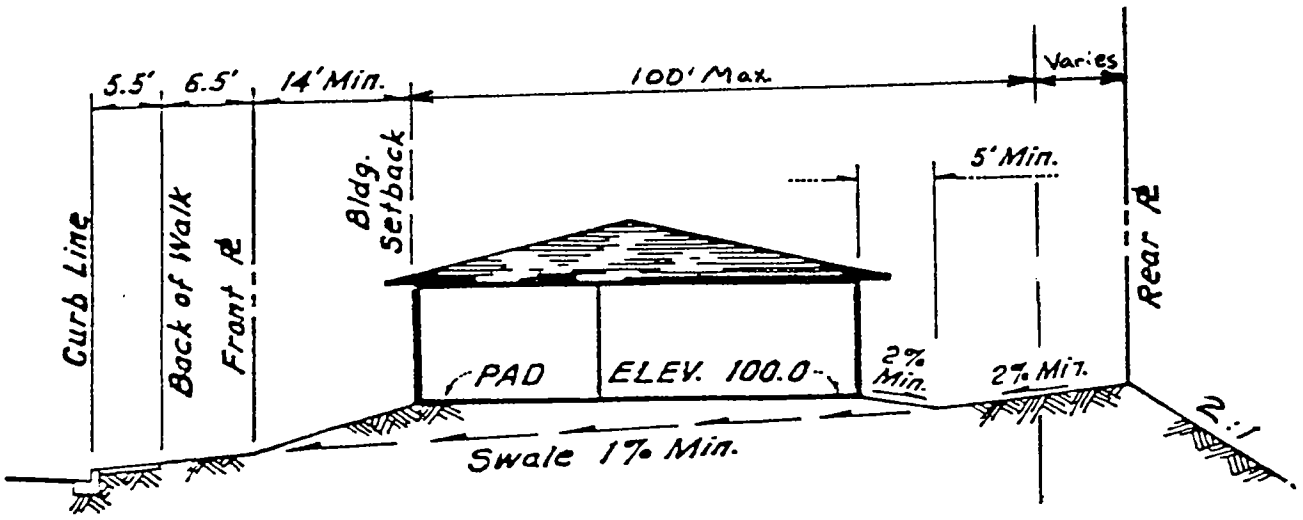
The attached policy is adopted for use by this Section, in the checking of grading plans for residential and commercial ("City") lots, with the following exceptions:

1. The flat pads cannot apply if there is contributory drainage onto the lot.

2. The flat pads may not work if the lots are irregular, or exceedingly deep (over 150' approximately).

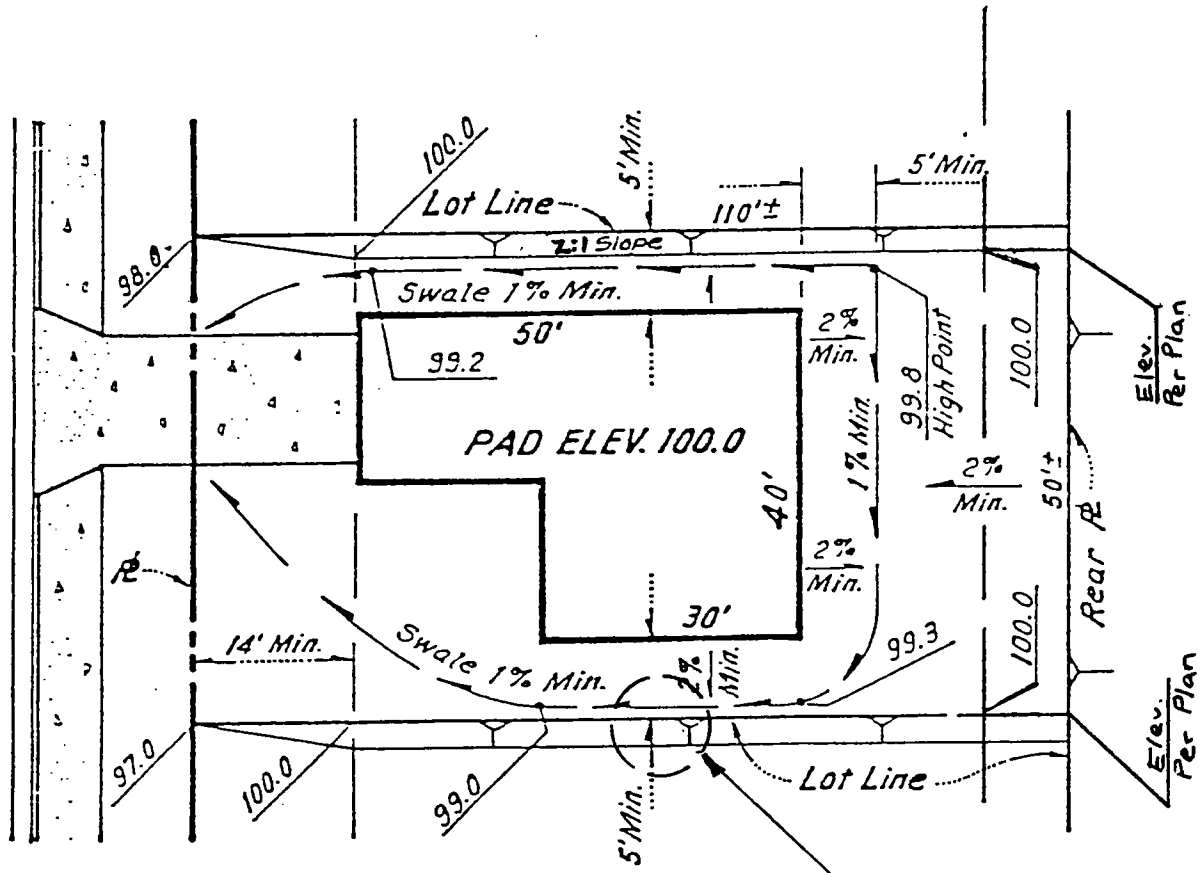
This policy has been discussed with Mr. Don Wolfe and Mr. Ed Biddlecomb of Building & Safety Division, and accepted by the Land Development Advisory Committee.

5-6-87
RFW:st



FINISHED GRADE

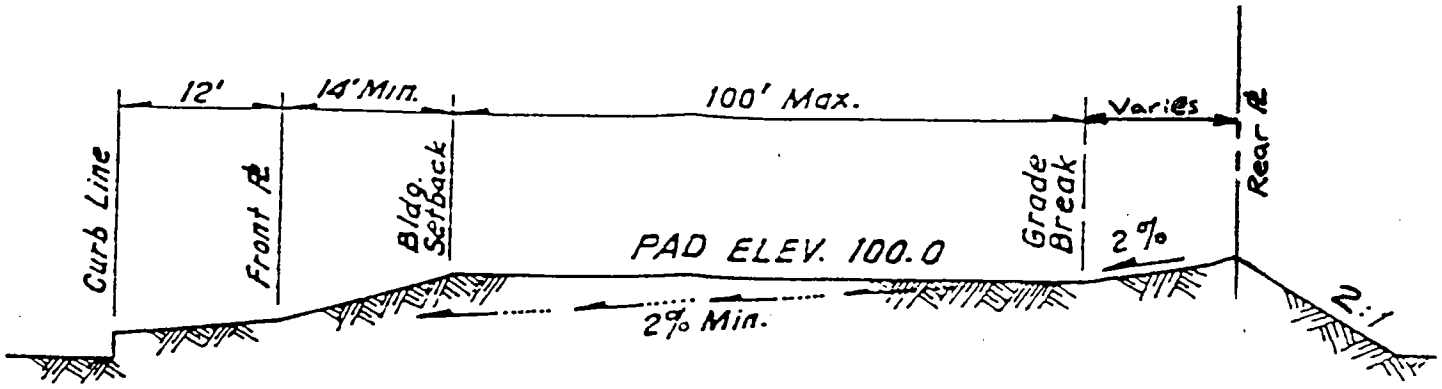
CROSS SECTION



FINISHED GRADE

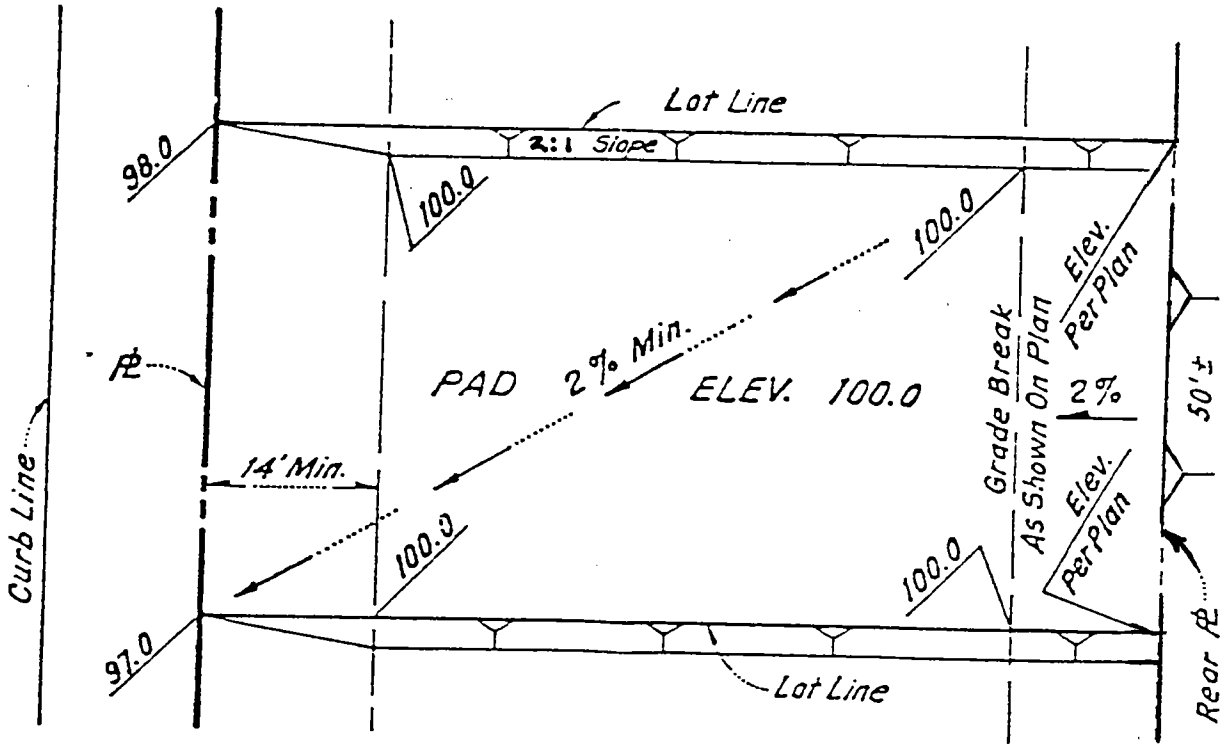
PLOT PLAN

Typical Side Yard Drainage Swale — See Chapt. 30, Detail F



CROSS SECTION

MINIMUM REQUIREMENTS FOR FLAT PADS IF BUILDINGS ARE TO BE CONSTRUCTED WITHIN 6 MONTHS AFTER ROUGH GRADING



PLAN

MINIMUM REQUIREMENTS FOR FLAT PADS IF BUILDINGS ARE TO BE CONSTRUCTED WITHIN 6 MONTHS AFTER ROUGH GRADING

January 31, 1989

TO: Building and Safety Division Personnel
Land Development Division Personnel

FROM: Don Wolfe
Carl Blum

1-1/2:1 CUT SLOPES

It has come to our attention that Section 7015 of the County of Los Angeles Building Laws is in conflict with Title 26, the State of California Housing Laws. Specifically, the County Code permits a 1-1/2:1 cut slope, the State Code limits a cut slope to 2:1. Both allow steeper slopes when justified by a soils engineering or a engineering geology report, or both.

The State Code has precedence; therefore, effective immediately, cut slopes are limited to 2:1 unless a steeper slope has been justified.

For grading projects for which a permit has been issued, check the plans for cut slope steepness. If the slopes are less than 2:1 but not less than 1-1/2:1, a notice is to be given to the developer requiring justification for the steeper slope as required in Title 26. Do not issue a stop work order. However, do not final the project until the slope steepness has been justified.

DLW:CB:dg

B-O/DISKF3/CTSLP

October 12, 1989

TO: All Regional Drainage Engineers

RHK 10/12/89

FROM: Rod Kubomoto
Drainage and Grading Section

PAVED SWALES AT THE TOP OF MANUFACTURED SLOPES

This memo is to clarify our current policy that a paved swale may be required by the plan checker to control drainage above manufactured slopes. When the contributary drainage may cause the swale to erode due to flow velocity and/or due to the native soil conditions, paving with gunite or concrete reinforced with welded wire mesh is required. This can be waived if a geotechnical analysis is reviewed and approved by the Geology and Soils Section of Land Development Division indicating that the existing ground is non-erosive.

It should be noted that our proposed updated version of the Building Code, forthcoming in December, will specifically require paved swales. This is consistent with meeting current State Building Code provisions.

RHK:al
files

Noted/Jim

53-10

DRAFT

CHAPTER 54

BUILDING PLANS AND PERMITS

Building plan approval procedures as described in Chapters 16 of this Manual and building inspection procedures as described in Chapter 17 of this Manual are subject to the requirements of both State and County Codes with the more restrictive taking precedent requirements should there be conflict. In general the requirements applicable to grading described in Chapter 53 of this Manual are applicable to building construction. The California Code permits in some instances local agencies to adopt more stringent requirements in their codes. The codes applicable to building are as follows:

A. State Codes

As briefly discussed in Chapter 53 of this Manual, the Health and Safety Code contains provisions regarding buildings. Division 13, "Housing", beginning with Section 17000, contains the statutes regulating housing in this State.

This Code requires that local agencies enforce the minimum requirements within these Codes and the Code of Regulations: The following Sections within this Division 13 of the Health and Safety Code are of interest:

1. Part 1 - Employee Housing Act

   This Part contains Sections regulating housing for employees.

2. Part 1.5 - Regulation of Buildings Used for Human Habitation

   This Part (beginning with Section 17910) contains Sections contains enforcement and standards for Buildings. Chapter 2, "Rules and Regulations" (beginning with Section 17920), details special requirements established by the Legislature ranging from Garage Door Springs to Water Heaters.

3. Part 2 - Mobilehomes-Manufactured Housing

   This Part (beginning with Section 18000) regulates mobile homes and manufactured homes. The State has essentially removed local authority from these types of homes.

4. Part 2.1 - Mobilehome Parks Act

   This Part (beginning with Section 18200) contains Sections regulating mobile home parks. The State has essentially removed local authority from regulating these sites.

5. Part 2.2 - Mobilehome Accommodation Structures

   This Part (beginning with Section 18800) regulates structures serving mobilehome Parks.

6. Part 2.3 - Camps

   This Part (beginning with Section 18897) regulates camps.

7. Part 2.5 - State Building Standards

This Part (beginning with Section 18901) regulates Building Codes within California. The following is of interest:

a. Chapter 1 - General Provisions and Definitions

Article "Definitions" (beginning with Section 18905) contains definitions used through this Part and in other Codes.

b. Chapter 2 - Organization

This Chapter (beginning with Section 18920) defines the organization of the Building Standards Commission. Article 3, "The Coordinating Council and Advisory Panels" (beginning with Section 18926), defines the organization that assists the Building Standards Commission in performing its duties.

Section 18927, "Advisory Panels," allows the Building Standards Commission to appoint experts to serve on advisory panels.

Section 18928, "Adoption of Model Code," requires each State Agency the adopts a model code, national standard or specification to use the most recent edition within one year of their publication.

Section 18929, "Approval and Adoption of Regulations," states that the Building Standards Commission must approve regulations adopted by State Agencies.

c. Chapter 3 - Powers of the Commission

This Chapter (beginning with Section 18930) defines the powers of the Building Standards Commission. The Legislature's goals and approval criteria is also presented.

d. Chapter 4 - The State Building Standards Code

This Chapter (beginning with Section 18935) contains procedures and legislative policy regarding the adoption of the Building Standards Code.

1/ Section 18939 - Use and Adoption of Model Codes

This Section encourages the adoption of model codes, applicable national specifications or published standards by reference.

2/ Section 18941.5 - Applicable Building Standards, Local Agency Authority

This Section lists the model codes to be adopted by Local Agencies. Local agencies can adopt stricter provisions based on local climatic, geological and topographical conditions.

3/ Section 18942 - Periodic Publication of Code and Emergency Standards

This Section requires that Codes be publishing once every three years

e. Chapter 5 - Appeals and Enforcement

This Chapter (beginning with Section 18945) contains provisions for enforcement of State building standards, including appeals.

8. Part 2.7 - State Historical Building Code

This Part (beginning with Section 18950) contains special provisions for strengthening building classified as being of historical significance.

9. Part 3 - Miscellaneous

This Part (beginning with Section 19000) contains Sections regarding earthquake protection, local building permits, building records, heating appliances and installations, etc.

10. Part 4 - Housing for the Elderly

This Part (beginning with Section 19900) contains requirements for housing built usually under a government subsidy for the elderly.

11. Part 4.5 - Shared Housing for the Elderly and the Handicapped

This Part (beginning with Section 19902) contains Sections regulating shared housing for the elderly and the handicapped.

12. Part 5 - Fixtures in Housing for the Elderly

This Part (beginning with Section 19950) contains special plumbing and hand rail fixture requirements for houses for the elderly.

13. Part 5.3 - Access to Places of Public Amusement and Resort by Physically Handicapped Persons

This Part (beginning with Section 19952) contains access requirements for places of public amusement and resorts by physically handicapped persons.

14. Part 5.5 - Access to Public Accommodations by Physically Handicapped Persons

This Part (beginning with Section 19955) contains Sections establishing access requirements for public accommodations by physically handicapped persons.

15. Part 6 - Factory-Built Housing

This Part (beginning with Section 19960) contains regulations for the manufacturing of parts for homes. Local jurisdictions have no authority over manufacturing. The State performs necessary inspections.

The Code of regulations contains two titles that are applicable to Building. They are as follows:

1. Title 24 - State Building Standards Code

This Title is the Uniform Building Code with amendments by the Building Standards Commission.

This Title is not published by Barclay Publishing Co. It is published by the International Conference of Building Officials. (See Chapter 50 of this Manual for Information.)

2. Title 25 - Housing

This Title contains procedures for regulating all types of housing. Special regulations for other types of Housing are also in this Title.

B. County Codes

The Los Angeles County Code contains basic Building regulations that must be enforced by the Department of Public Works. The following Titles are established for regulating building and site development:

1. Title 26 - Building Code

Title 26 contains basic regulations for Building Construction. This Title uses the Uniform Building Code for a model as required by the State Code. (See Item A above.) This code contains permit requirements for Grading Plan Check, Building Plan Check, Grading Inspection, Building Inspection, Building Repair, Slope Repair, Building Demolition, etc. This Code also contains requirements for different types of occupancies, site requirements, excavation procedures, building materials, building design, etc. For obtaining copies, see Chapter 50 of this Manual.

2. Title 27 - Electrical Laws

Title 27 contains basic regulations for use of electricity. This Title uses the National Electrical Code which is prepared by the National Fire Protection Association for a model as required by the State code. (See Item A above.) This Title defines the duties of the Electrical Inspector and registers electrical maintenance electricians to perform alteration or maintenance of electrical wiring or equipment on his/her own premises. It also has procedures of obtaining electrical permits, and specialized electrical requirements unique to Los Angeles County. The National Electrical Code contains basic materials requirements and installation standards for all permanently installed electrical wiring and equipment.

3. Title 28 - Plumbing Code

Title 28 contains basic regulations for construction, alteration, moving, removing, repair and use of any plumbing or drainage work within any premises. This Title uses the Uniform Plumbing Code and International Association of Plumbing and Mechanical Officials Installation Standards for models as required by State Code. (See Item A above.) This Title defines the duties of the Plumbing Inspector and when a plumbing permit is required. It also defines required qualification for a person to perform plumbing work under a plumbing permit. Plumbing is defined in Section 117 as the business, trade or work having to do with the installation, removal alteration or repair of plumbing and drainage systems or parts thereof. Plumbing fixtures are defined in that Section in more detail but essentially it is a devise designed to transport water and liquid borne wastes. The code contains materials and installation standards for all plumbing. This includes private sewage disposal systems. For obtaining a copy, see Chapter 50 of this Manual.

4. Title 29 - Mechanical Code

Title 29 contains basic regulations for installation and maintenance of heating, ventilating, cooling and refrigeration systems. This Title uses the Uniform Mechanical Code for a model as required by State Code. (See Item A above.) This Title defines the duties of the Mechanical Inspector and when a mechanical permit is required. The Title contains requirements for Heating, Ventilating and Cooling Systems including piping and Ducts. Specific details including refrigeration systems, kitchen ventilation, etc. Chapter 18, "Incinerators," in the Uniform Mechanical Code has been delated by Los Angeles County. Incinerators are not permitted in the County. For obtaining a copy see Chapter 50 of this Manual.

5. Title 32 - Fire Code

Title 32 contains basic regulations for the safeguarding to a reasonable degree of life and property from the hazards of fire and explosion arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the use or occupancy of buildings or premises. This Title uses the Uniform Fire Code for a model as required by State Code. (See Item A above.) This Title defines the authority of the Fire and Police Departments in Enforcing this Code. Part 1, "Administrative," Article 4, "Permits," contains Sections noting when and where permits are required and the procedures for obtaining Fire Department permits. This Title contains building occupancy standards, fire protection standards for various uses, general precautions against fire, handling hazardous and explosive materials, fire safety during construction, alteration or demolition of a building, etc.

The authors of all five model codes make an attempt to coordinate their work so that there are no conflicts between the codes.

C. County Policies

County policies in regards to building plan checks by Building and Safety/Land Development Division are described in Chapter 16 of this Manual. The requirements for building inspection that apply to Building and Safety/Land Development Division are described in Chapter 17 of this Manual. In general the Building Code Manual prepared by Building and Safety Division contains the Department policies as they affect both building permits and building inspections.

CHAPTER 55

DRAINAGE JURISDICTION

Drainage law as it affects the processing of tentative maps, grading plans, buildings plans, highway plans and dams as presented in Chapters 11, 14, 15, 18 through 21, 26, 30, 37, 40 through 44 of this Manual is a very complex subject because of the many federal laws and state and local codes that must be considered in our operations. In addition the County has within its code certain regulations as permitted by State law affecting drainage. The Department of Public Works has issued policy statements clarifying State and County Code provisions and standardizing procedures. The following is a summary of the various Codes that affect drainage in the Land Development process:

I. Federal Codes and Regulations

A. Federal Emergency Management Agency (FEMA)

In the area of drainage the Federal Emergency Management Agency (FEMA), which was established by Congress, oversees the development of areas subject to flood hazard by administrating a flood hazard insurance program in which owners within flood hazard areas must acquire insurance in order to obtain Federal assistance due to damage caused by flooding, including loans and disaster relief. The local agencies must be a member of the National Flood Insurance Program (NFIP).

FEMA's responsibility is very broad. Section 4011 of Title 42 of the U.S. Code provides that:

(a) To carry out the purposes of this title, the Secretary of Housing and Urban Development is authorized to establish and carry out a national flood insurance program which will enable interested persons to purchase insurance against loss resulting from physical damage to or loss of real property or personal property related thereto arising from any flood occurring in the United States.

(b) In carrying out the flood insurance program the Secretary shall, to the maximum extent practicable, encourage and arrange for:

(1) appropriate financial participation and risk sharing in the program by insurance companies and other insurers, and

(2) other appropriate participation, on other than a risk-sharing basis, by insurance companies and other insurers, insurance agents and brokers, and insurance adjustment organizations, in accordance with the provisions of Chapter II of this Code beginning with Section 4041.

This agency produces several documents of use to people involved in land development. These documents are as follows:

1. National Flood Insurance Act of 1968

FEMA was established under the National Flood Insurance Act of 1968. This is part of Sections 4001 through 4128 of Volume 42 of the United States Code. Its goal was to eliminate or reduce the magnitude of flood disasters that had occurred in this nation since its founding. As part of this act, a national flood insurance program as described above was established to help pay for the recovery from flood damage. This insurance is mandatory in Los Angeles County by FEMA for development within Flood Hazard Area Zones A and V. It is available for Flood Hazard Zones B and C and may be mandatory at the discretion of the lender.

As discussed below, communities participating in the NFIP must review construction proposals for flood-protective aspects, including adequate drainage. Moreover, it has been suggested that property developers may be held liable for drainage design and construction which causes or aggravates the insurance risk.

a. Flood Plain Management

Definitions applicable to the National Flood Insurance Program are found in Section 59.1 of Title 44 of the Code of Federal Regulations. The terms "flood" or "flooding," means:

(a) A general and temporary condition of partial or complete inundation of normally dry land areas from:

1/ The overflow of inland or tidal waters.
2/ The usual and rapid accumulation or runoff of surface waters from any source.
3/ Mudslides (i.e., mudflows) which are proximately caused or precipitated by accumulation of water on or under the ground.

(b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical level or suddenly caused by an unusual high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge or by some similarly unusual or unforeseeable event which results in flooding as defined in (a) (1) of this section."

Section 4102 of Title 42 of the United States Code authorizes FEMA to establish criteria to encourage the adoption of adequate state and local measures for flood plain management. The objectives of such criteria are to:

1/ Constrict the development of land which is exposed to flood damage where appropriate.
2/ Guide the development of proposed constructions away from locations which are threatened by flood hazards.
3/ Assist in reducing damage caused by floods.
4/ Otherwise improve the long-range land management and use of flood prone areas.

Section 4022 of Title 42 of the United States Code states that no new flood insurance shall be provided in any area unless the appropriate public body shall have adopted adequate land use and control measures which the director finds are consistent with the comprehensive criteria for land management and use under Section 4102 of this Title 42.

Once FEMA determines that a community contains a flood hazard area, the community, in order to qualify for the insurance program and disaster relief, must develop comprehensive flood plain management regulations which control the location, design, and elevation of new development.

Section 60.3 of Title 44 Code of Federal Regulations sets forth the criteria for land management and use. The duties of the community depend upon the finality of the flood hazard designation made by FEMA, as follows:

1/ When FEMA:

a/ has not defined the special flood hazard areas within a community,

b/ has not provided water surface elevation data, and

c/ has not provided sufficient data to identify the floodway or coastal high hazard area, but the community has indicated the presence of such hazards by submitting an application to participate in the program, the community must review all permit applications and subdivision proposals to determine whether the proposed construction will be reasonably safe from flooding. With respect to subdivisions, all public utilities and facilities, such as sewer, gas, electrical, and water systems must be located and constructed to minimize or eliminate flood damage. Adequate drainage must be provided to reduce exposure to flood hazards. (See 44 C.F.R. Section 60.3(a).)

2/ Once FEMA has designated areas of special flood hazards by publication of a community's Flood Hazard Boundary Map (FHBM), but has neither produced water surface elevation data nor identified floodway or coastal high hazard area, the community must make the same review of permit applications and subdivision proposals described above. Additionally, the community must assure that the flood carrying capacity within any altered or unrelocated portion of any watercourse is maintained. (See 44 C.F.R. Section 60.3(b).)

3/ When FEMA has provided a notice of final flood elevations for one or more special flood hazard areas on the community's Flood Insurance Rate Map (FIRM) and, if appropriate, has designated other special flood hazard areas without base blood elevations on the community's FIRM, but has not identified a regulatory flood way or coastal high hazard area, the community shall comply with all requirements described in the preceding two paragraphs, and provide adequate drainage paths around and away from proposed structures. (See 44 C.F.R. Section 60.3(c).)

4/ If higher levels of flood hazard areas finally designated by FEMA, additional precautions must be taken by the community which do not relate specifically to drainage systems. (See 44 C.F.R. Section 60.3(d) and (e).)

b. Flood Insurance

The Flood Disaster Protection Act of 1973 (PL 93-234) requires purchase of flood insurance as prerequisite for qualification for most kinds of federal or federally related financial assistance, including disaster assistance, for property in identified flood hazard areas.

Once a community receives notice of its "final base flood elevation" (100-year flood elevation) from FEMA, all new construction and substantial improvements in the community must be designed as follows:

a/ In residential structure, the lowest floor (including basement) must be elevated to or above the based flood level, unless the community is granted an exception by FEMA for the allowance of basement and/or flash storm cellars. (See 44 C.F.R. Section 60.3(c)(2).)

b/ In non-residential structures, the lowest floor (including basement) must be elevated to or above the base flood level or, the lowest floor, together with attendant utility and sanitary facilities, must be designed so that below the base flood level, the structure is water tight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. (See 44 C.F.R. Section 60.3(c)(3).)

A "substantial improvement" is defined in Section 59.2 of this Title as "any repair or reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either, (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred..."

As part of the insurance program, an elevation certification of a floodproofing certificate is required at the time a building permit is issued in order to establish insurance rates. Copies of these forms are in Chapter 16. The purpose for the Elevation Certificate as defined by FEMA begins on Page 55-19. The Instructions from FEMA for completing the Elevation Certificate begins on Page 55-21.

2. Other Regulations as Published in the Federal Register

The currently applicable FEMA regulations titled "Rules and Regulations" were published in Volume 52, No.125 of the Federal Register and took effect on June 30, 1987. These regulations are updated continually and annual updates are published as "National Flood Insurance Program and Related Regulations" and is available from FEMA. These regulations clarify the responsibilities of this agency in protecting and managing areas subject to flood hazard as authorized by Federal statutes. The contents of these regulations are as follows:

Part	Title
59	General Provisions
60	Criteria for Land Management and Use
64	Communities Eligible for the Sale of Insurance
65	Identification and Mapping of Special Hazard Areas
66	Consultation with Local Officials
67	Appeals from Proposed Flood Elevation Determinations
68	Administrative Hearing Procedures
70	Procedure for Map Correction
71	Implementation of Coastal Barrier Resources Act
72	Procedure and Fees for Obtaining Conditional Approval of Map Changes
73	Implementation of Section 1316 of the National Flood Insurance Act of 1968
75	Exemption of State Owned Properties under Self-Insurance Plan
77	Acquisition of Flood Damaged Structures

As noted above, the regulations establish the regulation of flood hazards and establishes a flood insurance program. The flood hazard insurance program is billed directly to the property owner through regular home owners insurance plans. The Planning Division represents this department in all matters affecting these regulations in that developers

desiring to change the flood hazard map must do so through the Planning Division for changes in unincorporated areas or the City in which the change is proposed for incorporated areas. This is independent of the land development process within the County.

3. Publications by FEMA

The following publications assist the developer in meeting the requirements of FEMA:

a. Appeals, Revisions, and Amendments to Flood Insurance Maps - A Guide for Community Officials.

This guide has been designed to provide community officials, planners and engineers, with information on how to obtain corrections or revisions of flood plain maps and other flood risks data prepared by FEMA. This guide provides basic information on the technical standards that must be applied and the administrative procedures that must be followed by local officials requesting changes to NFIP maps. This guide is intended not only to discuss the standards and procedures but also to help local officials understand how they can be most effective in maintaining the accuracy of the flood risk information developed for their communities.

b. How to Read a Flood Insurance Rate Map (FIA-10)

This document assists the individual such as a developer or department personnel in determining the degree of flood hazard in different areas of the community so that actuarial premium rates can be used to obtain full flood insurance coverage. Flood Insurance Rate Maps (FIRM) are available for review only in Planning or Land Development Division or through FEMA in San Francisco. (See Chapter 50 of this Manual for address and telephone number of FEMA.)

c. Flood Proofing Non-Residential Structures (FEMA 102)

This manual, distributed by FEMA, describes how to flood proof commercial structures. While this and the other manuals do not have force of law they do present the current state of the art on the subject in meeting federal regulations.

d. Manufactured Home Installation in Flood Hazard Areas (FEMA 85)

This document describes how to place a manufactured home in an area subject to a flood hazard or inundations due to hurricanes.

e. Design Manual for Retrofitting Flood-Prone Residential Structures (FEMA 114)

This design manual provides information for modifying any existing structure that is subject to a flood hazard.

f. Elevated Residential Structures (FEMA 54)

This manual presents the current state of the art for designing residential structures within a flood hazard area. Again, while this does not have force of law, it does show how one can meet current federal regulations under FEMA.

B. U.S. Army Corps of Engineers (Corps)

The U.S. Army Corps of Engineers (Corps) is the principal federal agency involved in regulating development affecting wetlands or "Waters of the United States" usually shown as a "blue-line" stream on a United State Geological Survey Topographic Map. This agency has been responsible for developing various flood control, harbors and beach projects in the Los Angeles County utilizing funds appropriated by Congress and matching funds coming from local agencies such as the County Flood Control District and local cities. Funds appropriated by the various government entities vary from project to project. An agreement is drawn up between all the parties for each project in which generally the Corps is responsible for the design of the project, the local agencies are responsible for providing adequate right-of-way and finally the Flood Control District is responsible for operation and maintenance.

In some projects the Corps continues to operate and maintain certain projects such as major dams and part of the Los Angeles River. Some of these projects may later be transferred to the Flood Control District for operation and maintenance. The basis for financing, construction, operations and maintenance of the project can only be generalized as each project is different. Generally the Corps operations are based on some of the following legislations:

1. Emergency Relief Appropriation Acts of April 8, 1935 and 1936.
2. Flood Control Acts of June 22, 1936 as amended by the Acts of May 15, 1937 and June 28, 1938.
3. Flood Control Acts of (a) August 18, 1941 (Public Law 228), (b) December 22, 1944, (c) July 24, 1946, (d) 1948 (Public Law 80-858), (e) May 17, 1950, (f) September 3, 1954, (g) July 3, 1958 and others.

The basic regulations regarding Corps property is in the Code of Federal Regulations, Title 33 - Navigation and Navigable Waters, Chapter II - Corps of Engineers, Department of the Army, Part 208 - Flood Control Regulations and beginning with Section 208.10. The authority for this regulations is issued under Section 7, 58, Statute 890; 33 United States Code 709.

The Corps has issued the "Operation and Maintenance Manual, Los Angeles County Drainage Area Project, California" (LADM No. 1120-2-13) dated December 1975. This manual notes their authority and contains their operation procedures. It also lists all the Corps projects that are still under their control and require their approval to modify. In addition, the "Flood Control Projects Manual" details the review procedures utilized by the Corps.

Generally approval is required from the Corps to encroach within their right-of-way although the ownership maybe held by the Flood Control District or other local agencies. This approval must be obtained from the Permits Section in the Mapping and Property Management Division of the Department of Public Works as the designated representative of the Flood Control District. As previously noted, some channels and reservoirs constructed by the Corps in the early days are still maintained by them. At this time there has been no move to transfer maintenance responsibilities to the Flood Control District for various reasons. Therefore, it is very important for anyone involved in the land development process that involves a channel constructed by the Corps to work with the Department regarding modification of that project.

As part of its regulatory function the Corps requires a "404" permit for any operation that would discharge dredged or fill material in any waters of the United States. A Section 10 permit is required for any operation that would excavate in, or locate a structure in navigable waters, or any operation that would transport dredged material for the purposes of dumping it into ocean waters. The term "404" comes from Section 404 of the Clean Water Act. A summary of the Corps Jurisdiction is on page 55-25. The scope of the Corps regulatory jurisdiction under Clean Water Act is on page 55-26. Federal law defines "navigable waters" as "the waters of the United States, ..." The Corps of Engineers by regulatory action has in

turn defined the waters of the United States in Section 328.3 of Title 33 Code of Federal Regulations. The definition includes:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, plays lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters."

That regulation further defines the term "wetlands" as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

While the definition of wetlands highlighted above is of particular significance because of the increasing focus by the Corps on wetlands areas, the citation above is intentionally incomplete. For a complete statement of the regulatory programs of the Corps, including the definitions and the permitting processes of the Corps, the reader is referred to Federal Register, Volume 51, No. 219, Thursday, November 13, 1986, pages 41206-41260.

In addition, there are two cases to which dealing with the jurisdiction of the Corps pursuant to the Clean Water Act (United States v. Riverside Bayview Homes, Inc., et al. (1985) 474 U.S. 121; Leslie Salt Company v. The United States (N.D. Cal. 1988) 700 F. Supp. 476.)

C. Housing Urban Development Department (HUD)

Several projects built by the department have been constructed based on fundings from HUD. Generally there has been no requirements in the agreement which requires HUD permission to modify these projects, however, for each HUD project that needs to be modified the file should be reviewed regarding the conditions of the agreement.

D. Soil Conservation Service

While the Soil Conservation Service does not regulate land development, this agency is a collector of information regarding the mitigation of land development problems. For instance, data on the types of soils, soil behavior and soil erosion potential is collected.

E. U.S. Geological Survey

Like the Soil Conservation Service the U.S. Geological Survey is a collector of information needed in the land development process. This organization maintains data regarding ground water, surface runoff, stream information and geological data which will be described later in Chapter 61 of this Manual. In addition, the U.S. Geological Survey maintains topographic maps at a scale 1 inch equals 2,000 feet of the entire County.

II. State Codes

The State of California contains numerous codes and regulations that affect drainage within the State of California. There are general drainage laws and the Flood Control District Act and related Acts which regulate or determine how drainage will be handled within various areas of State.

A. General Drainage Laws

The State Water Code contains many sections that apply to land development. The Drainage Law of 1885, Act 2200 of the unmodified acts contains the basic drainage regulations regarding the establishment of specific districts to control floods and drainage.

The State Water Code is a very extensive document containing and defining the State powers over water use, flood control and drainage. It requires attorney specialization to understand this code. The following are descriptions of the important sections of this code as it affects land development:

1. Division 1 of this Code "General State Powers Over Water" contains chapters regarding the general policy, state administration, miscellaneous powers of the Department of Water Resources, water shortage emergencies, regulation of rain-making and rain-prevention, federal reports on proposed flood control and reclamation projects and waste water reuse. All land development and drainage projects are subject to the provisions of the Water Code as discussed in this Division 1.

   In addition there have been many legal court decisions that interpret Section 100 of the Water Code. This section defines the fullest beneficial use of water resources. Derring's code contains definitions of water use and drainage concepts notably what constitutes a water course whether navigable or not navigable, that have been established through legal decisions and not by statutes.

2. Division 2 of this Code, "Water", contains many regulations regarding the use and handling of water. Part 2 "Appropriation Water," Chapter 1 "General Provisions," Section 1200 "Terms Referring to Surface Water and Subterranean Streams" contains many definitions that are used in the Water Code and are applicable to this manual. Many of these definitions are based on court decisions such as surface waters, flood waters, underground waters, watercourses, channels, beds and banks, etc.

3. Division 5 "Flood Control", Part I, "Local Flood Control" (beginning with Section 8100 of the State Water Code) defines many areas of responsibility local agencies such as the County and the Flood Control District have been given by the State in fulfilling their mission. Many provisions in Part I affect land development.

   Chapter 2 of this Division "Flood Control in Counties" contains four articles that affect the operations in land development. They are: 1) "General Powers Relating to Flood Control," "Flood Control Work Outside of the County," "County Flood Control Districts, "and " Improvement of Non-Navigable Streams." These articles are very important when considering the development of a tract that involves any kind of drainage.

   Chapter 3 "Transfer of Storm Drain Improvements, Drainage Improvement, and Drainage Systems to Flood Control Districts" contains four articles of importance to the land development process. They are: "General Provisions," "Transfers by Counties," "Transfers by Cities" and "Cancellation and Refund of Assessments".

   Part 2 of this Division 5 "State Flood Control" has chapters on the general powers of the California Department of Water Resources, cooperation in the national flood insurance program, and Cobey-Alquist Flood Plain Management Act. Other chapters in this part are not of interest in the land development process.

4. Division 6 of this Code "Conservation and Utilization of State Water Resources", Part 6 "Water Development Project," Chapter 1 "Investigation of Projects," Article 3 "Declaration of Policy" defines the responsibility of the Flood Control District and the County government in controlling floods within the State. Chapter 2 "Approved

Projects," Article 3 "Projects in Other Watersheds" mainly defines regulations that apply outside of the Sacramento-San Joaquin River Watershed. This includes the responsibility of local government in regard to the Los Angeles and San Gabriel Rivers and Ballona Creek along with other watersheds within the Los Angeles County Flood Control District.

Chapter 3 "Financing of Projects" Article 1 "General Provisions" defines the responsibilities of local public agencies in the area of flood control and also how they may finance required flood control projects. Article 2 "Extent and Method of Allocations" defines how to obtain State funds for use in flood control work.

Chapter 3.5 "Fish, Wild Life and Recreation in Connection with Flood Control and Watershed Protection Projects" contains five articles in this policy area that are of interest in the land development procedures.

Chapter 4 "Watershed Protection Flood Prevention Projects" contains State policy regarding the protection of watersheds and the prevention of floods.

Chapter 4.5 "Maintenance Area" defines how to form a maintenance area, dissolve a maintenance area, modify a maintenance area, assess the property owners for maintenance and operation and to administer the maintenance area funds. This section of the Water Code is very important in the operation of a drainage benefit assessment area (DBAA) described in Chapter 19 of this Manual.

B. Subdivision Map Act

When unimproved land is developed, the developer is normally required to include certain drainage improvements on the property to handle the increased runoff, changes in flow or velocity, new concentrations of flow, etc., as a result of the improvements to the land. The usual method of imposing these drainage improvements is through the Subdivision Map Act process California Government Code Section 66410 and following. (See Chapter 52 of this Manual.) The following Sections in the Government Code apply to drainage system requirements:

66411	Notes local agency subdivision regulation and control.
66418	Defines design requirements for a subdivision.
66419	Defines required improvements.
66421	Notes that local agency ordinances cannot be in conflict with the State Code.
66457	State map filing requirements.
66483	Notes how fees can be imposed by local agencies to pay for required services.

As a result of the above cited provisions of the Subdivision Map Act, it is clear that local agencies and their legislative bodies have the authority to provide for proper grading and erosion control, provide for drainage facilities necessary for the general use of the lot owners and the subdivision and the local neighborhood, require dedication or irrevocable offers of dedication of real property within the subdivision for drainage easements, and provide for fees for the purpose of deferring the actual or estimated costs of constructing planned drainage facilities for the removal of surface and storm waters from local or neighborhood drainage areas.

While local governments obviously have broad authority to require drainage easements, that authority is not without some limitation. For example, the Subdivision Map Act requires that local ordinances be consistent with, and not in conflict with, the Subdivision Map Act (California Government Code Sections 66411 and 66421).

In addition to the consistency requirements specifically provided in the Subdivision Map Act, the California Constitution, Article XI, Section 7, provides that: "A county or city may make

and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws." This constitutional grant of power allows substantial independence in matters of local concern for general law cities as well as counties. This local ordinance is limited, however, by the doctrine of state sovereignty which may limit the power of local government when there is a conflict with the general laws of the state. When the state legislature enacts the general laws, which are judicially construed to curb local regulation of the same subject matter, the local law is said to have been "preempted." It is, therefore, unenforceable to the extent of the preemption. Charter cities, on the other hand, probably have broader powers over "municipal affairs" than do general law cities.

There is some conflicting case law with respect to the preemption doctrine as it relates to the Subdivision Map Act. Some older cases have indicated that the Subdivision Map Act did preempt local ordinances with respect to certain fee issues (Kelber v. City of Upland (1957) 155 Cal. App. 2d 631; Newport Building Corp. v. City of Santa Ana (1962) 210 Cal. App. 2d 771; Santa Clara County Contractors, etc., Association v. City of Santa Clara (1965) 232 Cal. App. 2d 564). However, a recent California Supreme Court case has disapproved some of the older cases cited above as it relates to the preemption doctrine. In Pines v. City of Santa Monica (1981) 29 Cal. 3d 656, the California Supreme Court upheld an ordinance imposing a condominium tax of $1,000 per unit. The court stated that the fact that a state has preempted an area of statewide concern for purposes of regulation does not prevent local taxation of the persons or activities regulated, and, thus, the $1,000 condominium tax was upheld.

The authority of a local agency to require drainage improvements is quite broad under the Subdivision Map Act. Normally, the exact nature of the improvements required for drainage are specified in local ordinances. The local ordinances are of two general types. The first specifies identified improvements such as storm sewers, subdrain systems, detention basins, pumps, and catch basins. Recently enacted ordinances, however, tend to be more general and require improvements for facilities "sufficient to carry storm runoff both tributary to and originating in the subdivision."

There is now specific language in the Subdivision Map Act which refers to the construction of reasonable off-site and on-site improvements with respect to parcel maps. Arguably, the authority of local government to require off-site improvements as a condition of a tentative and final map is certainly no less than that for a parcel map. Thus, reasonable off-site improvements may be required either on parcel maps or final maps. Again, however, the authority is not without some limitation. For example, California Government Code Section 66411.1, which applies only to parcel maps, does contain a requirement that the fulfillment of construction requirements for off-site improvements is deferred, as a general rule, until the issuance of another permit or grant of approval for development of the parcel. A similar deferral of construction philosophy is contained in California Government Code Section 66424.6, dealing with designated remainder parcels. There is an Attorney General's Opinion construing California Government Code Section 66411.1 that holds a local agency may not require that the construction of off-site and on-site improvements be completed prior to the recordation of a parcel map, but that the local agency may require the completion of improvements within reasonable time after the parcel map has been approved (62 Ops. Cal. Atty. Gen. 175).

Probably the most significant statutory limitation on drainage facilities relates to the fee provision that was added in 1975 when Government Code Sections 66483 and 66484 were added to the Subdivision Map Act. These sections allow local ordinances to impose requirements for the payment of fees "for purposes of defraying the actual or estimated costs of constructing planned drainage facilities for the removal of surface and storm waters from local or neighborhood drainage areas... ." However, the ordinance and fees are subject to the following conditions:

(a) The ordinance has been in effect for a period of at least 30 days prior to the filing of the tentative subdivision map or parcel map if no tentative parcel map is required.

(b) The ordinance refers to a drainage or sanitary sewer plan adopted for a particular drainage or sanitary sewer area which contains an estimate of the total costs of constructing the local drainage or sanitary sewer facilities required by the plan, and a map of such area showing its boundaries and the location of such facilities.

(c) The drainage or sanitary sewer plan, in the case of a city situated in a county having a countywide general drainage or sanitary sewer plan, has been determined by the resolution of the legislative body of the county to be in conformity with such a county plan; or in the case of a city situated in a county not having such a plan but in a district having such a plan, has been determined by resolution of the legislative body of the district to be in conformity with the district general plan; or in the case of a city situated in a county having such a plan and in a district having such a plan, has been determined by resolution of the legislative body of the county to be in conformity with such a plan and by resolution of the legislative body of the district to be in conformity with the district general plan.

(d) The costs, whether actual or estimated, are based upon findings by the legislative body which has adopted the local plan, that subdivision and development of property within the planned local drainage area or local sanitary sewer area will require construction of the facilities described in the drainage or sewer plan, and that the fees are fairly apportioned within such areas either on the basis of benefits conferred on property proposed for subdivision or on the need for such facilities created by the proposed subdivision and development of other property within such areas.

(e) The fee as to any property proposed for subdivision within such a local area does not exceed the pro rate share of the amount of the total actual or estimated costs of all facilities within such area which would be assessable on such property if such costs were apportioned uniformly on a per-acre basis.

(f) The drainage or sanitary sewer facilities planned are in addition to existing facilities serving the area at the time of the adoption of such a plan for the area.

Such fees shall be paid to the local public agencies which provide drainage or sanitary sewer facilities, and shall be deposited by such agencies into a "planned local drainage facilities fund" and a "planned local sanitary sewer fund," respectively. Separate funds shall be established for each local drainage and sanitary sewer area. Moneys in such funds shall be expended solely for the construction or reimbursement for construction of local drainage or sanitary sewer facilities within the area from which the fees comprising the fund were collected, or to reimburse the local agency for the cost of engineering and administrative services to form the district and design and construct the facilities. The local ordinance may provide for the acceptance of considerations in lieu of the payment of fees.

A local agency imposing or requesting the imposition of, fees pursuant to this section, including the agencies providing the facilities, may advance money from its general fund to pay the costs of constructing such facilities within a local drainage or sanitary sewer area and reimburse the general fund for such advances from the planned local drainage or sanitary sewer facilities fund for the local

drainage or sanitary sewer area in which the drainage or sanitary sewer facilities were constructed.

A local agency receiving fees pursuant to this section may incur an indebtedness for the construction of drainage or sanitary sewer facilities within a local drainage or sanitary sewer area; provided that the sole security for repayment of such indebtedness shall be moneys in the planned local drainage or sanitary sewer facilities fund.

No courts have meaningfully interpreted Section 66483 in published decisions, but there is one opinion of the California Attorney General which has construed Section 66483. The Attorney General held that a city must comply with the requirements of Government Code Section 66483 when enacting a drainage fee ordinance under its police power regulating the division of land; however, the requirements of the statute need not be followed when enacting a drainage fee ordinance under some other police power's authority or taxation powers. Further, in calculating the maximum possible drainage fee under the provisions of Government Code Section 66483, the total acreage in the drainage area is to be the basis for the calculation. (66 Ops. Cal. Atty. Gen. 120 (1983).)

The Attorney General is obviously recognizing the fact that if the local agency fee imposed for drainage purposes is part of the local ordinances regulating and controlling the design and improvement of subdivisions, then it must comply with Government Code Section 66483. If, however, it is enacted pursuant to some other authority, then the statutory limitations contained in the Subdivision Map Act do not necessarily apply.

An example of this other authority occurred in Pfeiffer v. City of La Meza (1977) 60 Cal. App. 3d 74. The plaintiffs were refused the issuance of a building permit unless they granted the city an easement and constructed a 54-inch storm drain across the property. The plaintiffs elected to comply with the city's conditions under protest, granted the easement, and constructed the storm drain. Then, the plaintiff sued the city in inverse condemnation claiming they had not waived their rights and demanded compensation for the cost of the improvements. The court of appeal, however, upheld the city's authority to require drainage improvements as a condition of a building permit and disapproved the plaintiff's method of paying under protest and later suing. The proper remedy, the court observed, was to refuse to pay the fees or install the conditions, and seek judicial relief pursuant to the California Code of Civil Procedure Section 1094.5 (Administrative Mandamus). Note, however, California Government Code Section 65961 may impact the continued validity of Pfeiffer.

C. Water Resources Control Board and Regional Water Quality Control Boards

California Water Code Section 13000, et seq. (also known as the Porter-Cologne Water Quality Control Act) gives the State of California, through the State Water Resources Control Board and the various Regional Water Quality Control Boards, the primary responsibility for the control of water quality in the state. The primary enforcement mechanisms are summarized below.

Pursuant to Section 13260 of the California Water Code, any person discharging waste or proposing to discharge waste within any region that could affect the quality of the waters of the state, other than into a community sewer system, must file with the regional board, a report of the discharge containing such information as may be required by the board. All material changes or proposed changes in the character, location or volume of the discharge require the filing of an additional report. It is important to note that there are criminal penalties attached to a variety of violations of the act.

For purposes of the above section, term "waste" is defined to:

"'Waste' includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature, including such waste placed within containers of whatever nature prior to, and for purposes of, disposal." (California Water Code Section 13050(d).)

Pursuant to Section 13301 of this Code, regional boards can issue cease and desist orders for violations of the act, and the Attorney General has the power to petition the superior court for prohibitory or mandatory injunctions to assist in stopping violations of the act pursuant to Section 13304 of this Code.

Section 13266 of this Code provides:

"Pursuant to such regulations as the regional board may prescribe, each city, county, or city and county shall notify the regional board of the filing of a tentative subdivision map, or of any application for a building permit which may involve the discharge of waste, other than discharges into a community sewer system and discharges from dwellings involving five-family units or less."

Further, the Subdivision Map Act in California Government Code Section 66474.6 provides that the governing body of any local agency shall determine whether the discharge of waste from the proposed subdivision into an existing community sewer system would result in violation of existing requirements by the applicable Regional Water Quality Control Board. If the governing body finds that the proposed waste discharge would result in or add to such violations, it may disapprove the tentative maps or maps of the subdivision.

In Morshead v. California Regional Water Quality Control Board (1975) 45 Cal. App. 3d 442, a coalition of property owners, builders, and developers sought to restrain enforcement of orders of the Regional Water Quality Control Board prohibiting further sewer connections until water quality standards were met by districts discharging sewage in the San Francisco Bay. The court sustained the authority of the regional board to issue cease and desist orders and found that since the board was acting pursuant to its police power, the orders did not constitute a taking or damaging of the property for which compensation must be paid. The court also sustained the articulated policy of excluding hardship evidence.

The State Water Resources Control Board is designated as the State Water Pollution Control Agency for all purposes pursuant to the Federal Water Pollution Control Act and any other federal act. (33 U.S.C.S. Section 1251, et seq.) Note that the federal laws are referred to alternately as the Clean Water Act or the Federal Water Pollution Control Act.

Historically, the Federal Clean Water Act has predominantly emphasized the regulation of point source contamination and pollutants. It was amended by Congress in 1987 to state that programs for the control of non-point sources of pollution be developed and implemented in an expeditious manner. Hence, the State Water Resources Control Board will be integrally involved in the implementation of that national policy goal.

D. Department of Fish and Game

The Department of Fish and Game derives authority from Sections 1601 and 1603 of the California Fish and Game Code which provides in part:

"Except as hereinafter provided, general plans sufficient to indicate the nature of a project for construction by, or on behalf of, any governmental agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed, channel or bank

of any river, stream or lake designated by the department in which there is at any time a fish or wildlife resource or from which these resources derive benefit, or will use material from the streambeds designated by the department, shall be submitted to the department. ..." (Section 1601.)

"It is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use material from the streambeds, without first notifying the department of such activity, except when the department has been notified pursuant to Section 1601. ..." (Section 1603.)

Upon receipt of the notification provided above, the Department determines whether an existing fish or wildlife resource may be substantially adversely affected by the proposed activity. The Department then notifies the person of the existence of fish and wildlife resources and provides a description of the necessary protective measures. Within 14 days of the receipt of the Department's proposals, the affected person must notify the Department in writing as to the acceptability of the proposals. If the proposals are not acceptable to the affected person, written notification of unacceptability is required. Upon request, the Department will meet with the affected person for the purpose of developing mutually agreed upon proposals. If no agreement is reached, a decision will be made by a panel of arbitrators. A party affected by such a decision may petition the court for review.

The authority contained in Section 1603 refers to designated rivers, streams, or lakes. Section 720 of Title XIV, California Code of Regulations has been adopted by the Department for the purpose of implementing, among others, Section 1603, and designates all rivers, streams, lakes, and streambeds (including those with intermittent flows of water) for such purposes.

The Department has also adopted a policy or guideline for the purpose of enforcing Section 1603 which provides:

"A river or stream is a natural watercourse as designated by a solid line or dash and three dots symbol shown in blue on the largest scale United States Geological Survey Topographic Map most recently published." (Department of Fish and Game, Departmental Guidelines Memo No. FG 1061).

The Department has publicly taken the position that this so-called "blue line" concept is a guideline and not a fixed rule. The Department's authority and responsibilities extend to all watercourses that may directly or indirectly affect resource values. In other words, the Department is asserting jurisdiction over watercourses in addition to those designated on topographic maps.

Section 1603 of this Code has withstood a number a legal challenges to its sufficiency and the courts appears to be treating the Department's Section 1603 authority to be broad and lawful. (Willadsen v. Justice Court (1983) 139 Cal. App. 3d 171' People v. Weaver (1983) 147 Cal. App. 3d Supp. 23; Rutherford v. State of California (1987) 188 Cal. App. 3d 1267.)

In addition to Section 1603, there are a number of Fish and Game statutes which give the department jurisdiction over fish spawning areas, damage to fish and game, pollutants affecting fish and game, disposal of garbage and rubbish adjacent to state waters, use of vacuum or suction dredges, cleanup or abatement of oil spills, certain mining operations, and pollution caused by frogs.

E. California Coastal Commission

Pursuant to the California Coastal Act (California Public Resources Code Section 30000, et seq.), the California Coastal Commission is the statewide agency charged with enforcing the

policies of the Coastal Act. Those policies are many and varied, but are intended generally to protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and manmade resources.

The "coastal zone" boundary generally identifies areas of jurisdiction the Coastal Commission has over developmental. The "coastal zone" is generally identified as the coastline, extending seaward to the limit of the state's jurisdiction, and extending inland to a point not in excess of five miles. The exact inland boundary may depend upon a variety of factors too numerous to mention, but the five-mile boundary is an outside limit.

The Coastal Commission has the authority to maintain and enhance coastal zone environmental quality through certain planning devices as well as the regulation of the developments by permit. California Public Resources Code Section 30607 provides generally that any permit that is issued or any development or action approved shall be subject to "reasonable terms and conditions in order to insure that such development or action will be in accordance with the provisions of this division." This provision constitutes a broad grant of authority to the Coastal Commission and under many circumstances, the purposes of the Coastal Act have been considered controversial.

Although the California Coastal Act does not contain references to drainage requirements or policies, the statewide interpretive guidelines, as well as some of the regional interpretive guidelines, do contain references to drainage requirements. Persons involved in development work in various regions need to make specific references to both the statewide and the applicable regional guidelines.

In some areas of the state (San Diego County), the Coastal Commission is demonstrating significant interest in drainage and drainage-related problems including sedimentation and siltation problems caused by upland development. It is probable that the Coastal Commission, assuming its continued existence, will become increasingly involved in drainage and drainage-related matters.

F. The Los Angeles County Flood Control District Act

The Los Angeles County Flood Control District Act No. 4463 of the unmodified acts of the California Water Code, defines the powers of the Los Angeles County Flood Control District as granted by the State Legislature. This document has been amended several times and the current Derrings California Codes need to be to reviewed instead of an older handout whenever there is a question regarding the powers of the Los Angeles County Flood Control District (see Chapter 50 of this Manual).

III. County Codes

Drainage requirements established by the County are presented throughout the County Code. The following is a summary of the important sections applicable to land development:

A. Title 17 - "Parks, Beaches and Other Public Places"

Chapter 11.60 "Floodways" notes all the location of all designated floodways in Los Angeles County.

Chapter 11.62 "Small Dams" is discussed in Chapter 56 of this Manual as it applies to Small Dams.

This Chapter can be utilized for protection of drainage courses and adjacent properties. Section 11.62.010 can be also used should an obstruction impound a channel with sufficient volume to meet the definition of a small dam.

Section 11.62.210 gives the County Engineer wide authority to stop or suspend work if there is a hazard or dangerous condition.

B. Title 20 "Utilities," Division 5 - "Flood Control District Property Facilities."

This division of the County Code regulates the use of Flood Control District property and facilities for other purposes than flood control and water conservation. This includes fishing within reservoirs, vehicles on the flood control levies and the use of flood control properties for recreational purposes.

Chapter 20.94 "Channels" protects channels from encroachment by the public and adjacent property owners and contains the following important Sections:

1. Section 20.94.020 - Maintenance - Owner responsibilities

   This Section requires owners to maintain their property in such a manner that natural flows will not be impeded at any time.

2. Section 20.94.030 - Using Property Prohibited Without Permit

   This Section makes it unlawful for any one including other government agencies to interfere with, cause damage to, destroy or use in any manner whatsoever any flood control, storm drain or water conservation structure, facility, appurtenance, or any other property owned, constructed, maintained or controlled by or on behalf of the Los Angeles County Flood Control District.

3. Section 20.94.040 - Placing Obstructions, Refuse and Contaminating Substances in Channels Prohibited

   This Section prohibits the placing of obstructions, refuse and contaminating substances in any floodway adopted pursuant to Section 11.60.010, or in the channel, bed, or on the bank of any river, streams, wash or arroyo if a floodway has not been adopted or within or upon any floodway or any flood-control channel, reservoir, debris basin, spreading ground, or any property over which the Los Angeles County Flood Control District has an easement or fee title thereto for flood and/or conservation purposes duly recorded in the office of the county recorder, any wires, fence, building or other structure, or any refuse, rubbish, tin cans or other matter that may impede, retard, or change the normal direction of the flow of the flood, storm, and other waters in such river, stream, wash, arroyo, floodway, floodplain, flood-control channel, reservoir, debris basin or spreading ground, or that may catch or collect debris carried by such waters, or that may be carried downstream by such waters to the damage and detriment of either private or public property within or adjacent to said river, stream, wash, arroyo, floodway, floodplain, flood-control channel, reservoir, debris basin, or spreading ground, nor shall any material, either solid or liquid, be placed in said river, stream, wash, arroyo, floodway, floodplain, flood-control channel, reservoir, debris basin, or spreading ground that will deteriorate the quality of water flowing or stored therein or that which is stored within the water-bearing zones underground.

4. Section 20.94.050 - Bridges and Dip Crossings Permitted When

   This Section establishes the conditions for the construction of bridges and dip crossings within natural drainage courses on private property.

5. Section 20.94.070 - Violation - Penalty

   This Section notes the penalty for violations of any of the provisions of this Chapter 20.94 of the Los Angeles County Code.

C. Title 21 "Subdivision Code"

This code contains many regulations affecting subdivision drainage. The most notable sections are the following:

1. Chapter 21.28 - "Dedications"

Section 21.28.100 Drainage Facilities requires that the subdivider shall dedicate an adequate right of way for any drainag facility.

2. Chapter 21.32 - "Improvements"

Section 21.32.120 "Supplemental Sewer or Drainage Improvements" allows the County to enter into agreements with subdividers for developing supplemental sewer and drainage facilities in excess of the immediate subdivision need to serve the entire watershed.

Section 21.32.130 "Fences for Water Courses or Drainage Facilities" requires that fencing be provided for all water courses or drainage facilities on a dedicated easement to the satisfaction of the County.

Section 21.32.400 "Fees for Drainage Facilities" establishes the procedures for establishing a Drainage Benefit Assessment Areas and the necessary facilities for providing adequate drainage to the requirements of the Drainage Plan adopted by the Board of Supervisors.

D. Title 22 - "Zoning Code"

The Zoning Code contains various items affecting drainage as follows:

1. Chapter 22.08 - "Definitions"

Section 22.08.08 contains a definition regarding what constitutes special flood hazard area. This definition is utilized throughout the County Codes.

2. Chapter 22.12 - "Zones and Districts"

Section 22.12.040 "Supplemental District Designated" notes that flood protection districts can be established.

3. Chapter 22.44 - "Supplemental Districts," Part I - "General Regulations"

Section 22.44.010 "Supplemental Districts Designated" notes that flood protection districts are supplemental districts as defined in the code.

4. Chapter 22.44 - "Supplemental Districts," Part IV - "Flood Protection Districts"

Part IV containing sections 22.44.210, 220 and 230 define the establishment of flood protection districts their purpose, building restrictions and finally lists the current districts.

5. Chapter 22.52 - "General Regulations", Part 5 - "Flood Control". This chapter authorizes the Board of Supervisors to establish regulations regarding excavations or moving of the soil. It authorizes permits and the Chief Engineer of the Flood Control District to review plans and specifications. This chapter prohibits any excavations without a permit. The Flood Control District shall act as a consultant in such matters. Hazardous Flood Areas are defined and specific areas designated.

E. Title 26 - "Building Code"

The Building Code contains many items affecting drainage as it affects subdivision development and single lot development. The most notable are as follows:

1. Section 308 (a) - "Flood Hazard"

This section of the Building Code defines the requirements of the various parties within the Department of Public Works in the enforcement of flood hazard prevention or reduction to proposed developments. This includes the protection of existing undeveloped water courses, adjacent property and proposed development. Buildings cannot be built in an area determined by the County Engineer to be subject to a flood hazard by reason of inundation, overflow or erosion. Adjacent properties cannot be adversely affected by the development.

As noted in Item A, the County has established floodways. No work can be done within a floodway if such work increases the flood hazard to adjacent properties. The County can approve work that avoids an increase in the flood hazard, provided that proper drainage acceptance covenents from the impacted property owners are obtained.

2. Chapter 70 - "Excavation and Grading"

This chapter within the Building Code contains the drainage requirements for cut and fill slopes and for building lots. This section further amplifies the requirements of the State Codes described previously in this chapter.

It must be noted that the Los Angeles County Building Codes must meet or exceed the minimum requirements established by the State Building Code. (See Chapter 53 and 54 of this Manual.) Chapter 70 is in the State Code while the parts of Chapter 3 in the previous discussion are not part of the State Code. All requirements that are more stringent than the State Building Code requirements must be justified on the basis of unique geography, topography or climate. The County Code requirements are subject to the State Code regulations. Should conflict between the two sets of codes arise, the State Codes governs.

IV. The Flood Control District Code

The Flood Control District Code is located behind Title 20 in the Los Angeles County Code book. Essentially this code contains the administration of the Los Angeles County Flood Control District. Of interest in the field of land development is Chapters 13 "Relocation Assistance", 15 "Benefits Assessment Procedures", and 17 "Fees for Miscellaneous Services". All of these items are administered by the Department of Public Works. The Benefit Assessments are for each piece of property within the County and is based on the amount of services performed by the Department of Public Works in the name of the Los Angeles County Flood Control District. It is to the benefit of a developer to design the development in such a way that flood control services are minimized. Chapter 17 of this Code contains Flood Control District fees which are charged by the Department of Public Works in the processing of any development for flood control services. This includes fees for Flood Hazard Reports, Miscellaneous Transfer Drain plan checking, Quarry Flood Hazard Reports, Reviewing Documents, etc.

V. County Policies

In accordance with the above referenced Codes, the Department issued a policy establishing the level of flood protection for various types of site locations. (See Page 55-27 through 55-34.) The hydrology study must meet the requirements of this policy statement. In addition, the policy statement, "Drainage Facilities for the Santa Clara River and Major Tributaries" contains unique hydrology and design requirements for the Santa Clara River Watershed. This statement is on Pages 55-55 through 55-40.

H

610.2.1

Federal Emergency Management Agency

Washington, D.C. 20472

AUG 20 1990

MEMORANDUM FOR: CHIEF EXECUTIVE OFFICERS

Attention: Floodplain Administrators

FROM: C. M. "Bud" Schauerte, Administrator
Federal Insurance Administration

SUBJECT: Elevation Certificate and Non-Residential Floodproofing Certificate

The purpose of this correspondence is to describe recent changes that have been made to two forms that are used to certify construction work related to the National Flood Insurance Program (NFIP). The two forms are the Elevation Certificate, which can be used to certify the elevation of a building's lowest floor, and the Floodproofing Certificate for Non-Residential Structures, which must be used to certify that a floodproofed non-residential building has been constructed in accordance with the NFIP requirements.

The Federal Emergency Management Agency (FEMA), after consultation with surveyors, engineers, State and local government officials and other users, has completed a series of revisions to both the Elevation and Floodproofing Certificates in order to meet two objectives: first, to clarify and simplify the Certificates (and in so doing reduce the increasing cost of completing the Certificates); and second, to create Certificates that meet the needs of both floodplain management and flood insurance. Following are descriptions of the two revised Certificates and their uses.

ELEVATION CERTIFICATE

One of the requirements of the NFIP is that a floodplain management ordinance be adopted and enforced by a community in order to participate in the program. This ordinance requires that a community "obtain the elevation of the lowest floor (including basement) of all new and substantially improved structures, and maintain a record of all such information." Use of the Elevation Certificate provided by FEMA is one way for a community to comply with this requirement.

Some of the more significant changes to the Elevation Certificate are to:

1) revise and incorporate the reference level diagrams directly into the Certificate instructions so that it can

"stand alone" as the complete guidance needed, eliminating the need to rely on the Flood Insurance Manual for supplemental information.
2) add a warning statement that an Elevation Certificate is not a waiver of the Federal flood insurance purchase requirement, and
3) make the Certificate a complete package, consisting of a cover page, the actual Certificate, the completely rewritten instructions, and the reference level diagrams to assure a consistent level of accuracy.

The citizens of your community can benefit in several ways when a FEMA Elevation Certificate is used. First, all flood insurance policies require an Elevation Certificate in order to properly rate all structures built after adoption of the Flood Insurance Rate Map where base flood elevation information is available. If your community already has an Elevation Certificate for a structure on file, the property owner would save the expense of obtaining a second certification. A second advantage is that the use and maintenance of a FEMA Elevation Certificate is one of activities that may qualify your citizens for a flood insurance rate reduction if your community elects to participate in FEMA's Community Rating System.

FLOODPROOFING CERTIFICATE FOR NON-RESIDENTIAL STRUCTURES
The Floodproofing Certificate language was revised to conform with current floodplain management requirements, and it provides introductory language regarding the appropriate usage of the certificate.

Enclosed you will find one copy of both the revised Elevation and Floodproofing Certificates for your community's use. Both certificates are designed to be photocopied. However, additional copies of both certificates can also be ordered from FEMA. The address for ordering additional forms is:

Federal Emergency Management Agency
P.O. Box 70274
Washington, D.C. 20024
Attn: Publications

Concurrently, copies of these Certificates are being distributed to insurance companies and agents for their use. If you or your staff have any questions or comments regarding the two Certificates, please contact your FEMA Regional Office.

THE NATIONAL FLOOD INSURANCE PROGRAM
ELEVATION CERTIFICATE

PURPOSE OF THE ELEVATION CERTIFICATE

The Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP).

As part of the agreement for making flood insurance available in a community, the NFIP requires the community to adopt a floodplain management ordinance containing certain minimum requirements intended to reduce future flood losses. One such requirement is that the community "obtain the elevation of the lowest floor (including basement) of all new and substantially improved structures, and maintain a record of all such information." The Elevation Certificate is one way for a community to comply with this requirement.

The Elevation Certificate is also required to properly rate post-FIRM structures, which are buildings constructed after publication of the Flood Insurance Rate Map (FIRM), for flood insurance in FIRM Zones A1-A30, AE, AO, AH, A (with Base Flood Elevations [BFE's]), V1-V30, VE, and V (with BFE's). In addition, the Elevation Certificate is also needed for pre-FIRM structures being rated under post-FIRM flood insurance rules.

Use of this certificate does not in any way alter the flood insurance purchase requirement. The Elevation Certificate is only used to provide information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper flood insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Only a LOMA or LOMR from the Federal Emergency Management Agency (FEMA) can amend the FIRM and remove the Federal requirement for a lending institution to require the purchase of flood insurance. Note that the lending institution may still require flood insurance.

This certificate is only used to certify the elevation of the reference level of a building. If a non-residential building is being floodproofed, then a Floodproofing Certificate must be completed in addition to certifying the building's elevation. Floodproofing of a residential building does not alter a community's floodplain management elevation requirements or affect the insurance rating unless the community has been issued an exception by FEMA to allow floodproofed residential basements.

INSTRUCTIONS FOR COMPLETING THE ELEVATION CERTIFICATE

The Elevation Certificate is to be completed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1-A30, AE, AH, A (with BFE's), V1-V30, VE, and V (with BFE's) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information may also complete this form. For Zones AO and A (without BFE's), a building official, a property owner, or an owner's representative may also provide the information on this certification.

SECTION A Property Information

The Elevation Certificate identifies the building, its owner and its location. Provide the building owner's name(s), the building's complete street address, and lot and block number. If the property address is a rural route or PO box number, provide a legal description or an abbreviated location description based on distance from a reference point.

SECTION B Flood Insurance Rate Map Information

In order to properly complete the Elevation Certificate, it is necessary to locate the building on the appropriate FIRM, and record the appropriate information. To obtain a FIRM, contact the community or call 1-800-333-1363.

The Elevation Certificate may be completed based on either the FIRM in effect at the time of the certification *or* the FIRM in effect when construction of the building was started.

Items 1 - 6. Using the FIRM Index and the appropriate FIRM panel for the community, record the community number, panel (or page) number, suffix, and Index date. From the appropriate FIRM panel, locate the property and record the zone and the BFE (or flood depth number) at the building site. BFE's are shown on a FIRM for Zones A1-A30, AE, AH, V1-V30, and VE; flood depth numbers are shown for Zone AO.

Item 7. Record the vertical datum system to which the elevations on the applicable FIRM are referenced. The datum is specified in the upper right corner of the title block of the FIRM.

Item 8. In A or V Zones where BFE's are not provided on the FIRM, the community may have established BFE's based on data from other sources. For subdivisions and other development greater than 50 lots or 5 acres, establishment of BFE's is required by community floodplain management ordinance. When this is the case, complete this item.

SECTION C Building Elevation Information

Item 1. The Elevation Certificate uses a building's reference level as the point for measuring its elevation. Pages 5 and 6 of this Elevation Certificate package contain a series of eight diagrams of various building types that are to be used to help determine the reference level. Choose the diagram that best represents this building, record the diagram number, and use the indicated reference level to measure the elevation as requested in Items 2a-d.

Item 2. Depending on the property location's FIRM Zone, complete Item 2a, 2b, 2c, or 2d. Use the reference level shown in the appropriate building diagram as the point of measurement. As shown in the diagram on the back of the Certificate, for all A Zones, the elevation should be measured at the top of the reference level floor. For all V Zones, the elevation should be measured at the bottom of the lowest horizontal structural member of the reference level floor. Reporting of elevations in Items 2a and 2b should be to the nearest tenth of a foot, or alternatively, unless prohibited by state or local ordinance, the reference level elevation may be "rounded down" to the nearest whole foot **("rounding up" is prohibited).**

Item 2(a). For structures located in FIRM Zones A1-A30, AE, AH, and A (with BFE's), record the elevation (to the nearest tenth of a foot) of the top of the floor identified as the reference level in the applicable diagram.

Item 2(b). For structures located in FIRM Zones V1-V30, VE, and V (with BFE's), record the elevation (to the nearest tenth of a foot) of the bottom of the lowest horizontal structural member of the floor identified as the reference level in the applicable diagram .

Item 2(c). For structures located in FIRM Zone A (without BFE's), record the height (to the nearest tenth of a foot) of the top of the floor indicated as the reference level (from the applicable diagram) above or below the highest adjacent grade immediately next to the building.

Item 2(d). For structures located in FIRM Zone AO, the FIRM will show the base flood depth. For locations in FIRM Zone AO record the height (to the nearest tenth of a foot) of the top of the floor identified as the reference level (from the applicable diagram) above or below the highest adjacent grade immediately next to the building. For post-FIRM buildings, the community's floodplain management ordinance requires that this value equal or exceed the base flood depth provided on the FIRM. For those few communities where this base flood depth is not available, the community will need to determine if the lowest floor is elevated in accordance with their floodplain management ordinance.

Item 3. Record the vertical datum system used in identifying the reference level elevations for all buildings. If the datum used in measuring the elevations is different than that used on the FIRM, then convert the elevations in Items 2a-d to the datum used on the FIRM, and show the conversion equation under the Comments section on Page 2.

Item 4. Indicate if the elevation reference mark used appears on the FIRM. Reference marks other than those shown on the FIRM may be used for elevation determinations. In areas experiencing ground subsidence, the most recently adjusted reference mark elevations must be used for reference level elevation determinations.

Item 5. Indicate if the reference level used in making the elevation measurement is based on actual construction or construction drawings. Construction drawings should only be used if the building does not yet have the reference level floor in place, in which case the Elevation Certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be needed once construction is complete.

Item 6. Record the elevation measurement of the lowest grade adjacent to the building (to the nearest tenth of a foot). Adjacent grade is defined as the elevation of the ground, sidewalk, patio, deck support, or basement entryway immediately next to the structure. This measurement should be to the nearest tenth of a foot if this Certificate is being used to support a request for a LOMA/LOMR.

SECTION D Community Information

Completion of this section may be required by the community in order to meet the minimum floodplain management requirements of the NFIP. Otherwise, completion of this section is not required.

Item 1. The community's floodplain management ordinance requires elevation of the building's "lowest floor" above the BFE. For the vast majority of building types, the reference level and the lowest floor will be the same. If the community determines that there is a discrepancy, record the elevation of the lowest floor.

Item 2. Enter date. These terms are defined by local ordinance.

SECTION E Certification

Complete as indicated. The Elevation Certificate may only be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1-A30, AE, AH, A (with BFE's), V1-V30, VE, and V (with BFE's) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information may also sign this certification. In the case of Zones AO and A (without BFE's), a building official, a property owner, or an owner's representative may sign this certification.

Certification is normally to the information provided in Sections B and C. If the certifier is unable to certify to the selection of reference level diagram 6, 7 or 8 (Section C, Item 1), e.g., because of difficulty in obtaining construction or building use information needed to determine the Distinguishing Feature(s), the certifier must list the Feature(s) excluded from the certification under Comments on Page 2. The diagram number used for the Reference level must still be entered in Section C, Item 1.

INSTRUCTIONS

The following 8 diagrams contain descriptions of various types of buildings. Compare the features of your building with those shown in the diagrams and select the diagram most applicable. Indicate the diagram number on the Elevation Certificate (Section C, Item 1) and complete the Certificate. The reference level floor is that level of the building used for underwriting purposes.

NOTE: In all A Zones, the reference level is the top of the lowest floor; In V Zones the reference level is the bottom of the lowest horizontal structural member (see diagram on page 2). Agents should refer to the Flood Insurance Manual for instruction on lowest floor definition.

DIAGRAM NUMBER 1

ALL SINGLE AND MULTIPLE FLOOR BUILDINGS (OTHER THAN SPLIT LEVEL), INCLUDING MANUFACTURED (MOBILE) HOUSING AND HIGH RISE BUILDINGS, EITHER DETACHED OR ROW TYPE (E.G., TOWNHOUSE, ETC.); WITH OR WITHOUT ATTACHED GARAGE.

Distinguishing Feature - The first floor is *not* below ground level (grade) on *all* sides*. This includes "walkout" basements, where at least one side is at or above grade. (Not illustrated)

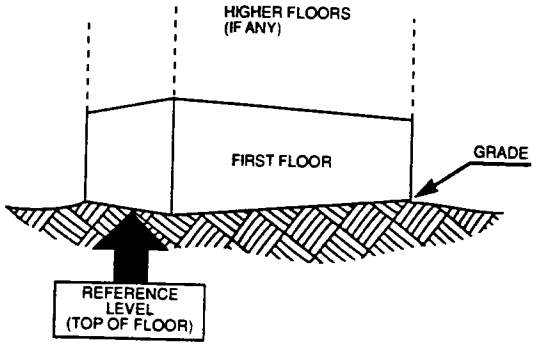


DIAGRAM NUMBER 2

ALL SINGLE AND MULTIPLE FLOOR BUILDINGS (OTHER THAN SPLIT LEVEL), INCLUDING MANUFACTURED (MOBILE) HOUSING AND HIGH RISE BUILDINGS, EITHER DETACHED OR ROW TYPE (E.G., TOWNHOUSES, ETC.); WITH OR WITHOUT ATTACHED GARAGE.

Distinguishing Feature - The first floor *or* basement (including an underground garage*) is below ground level (grade) on *all* sides*.

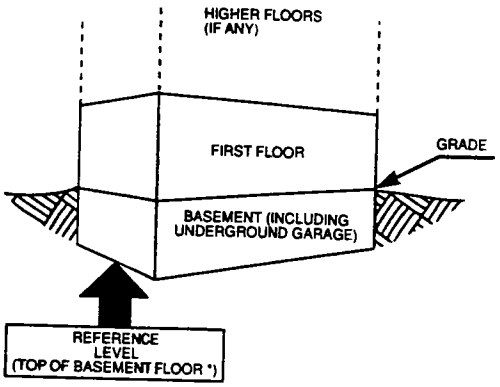


DIAGRAM NUMBER 3

ALL SPLIT LEVEL BUILDINGS, EITHER DETACHED OR ROW TYPE (E.G., TOWNHOUSES, ETC.); WITH OR WITHOUT ATTACHED GARAGE.

Distinguishing Feature - The lower level is *not* below ground level (grade) on *all* sides*. This includes "walkout" basements, where at least one side is at or above grade.

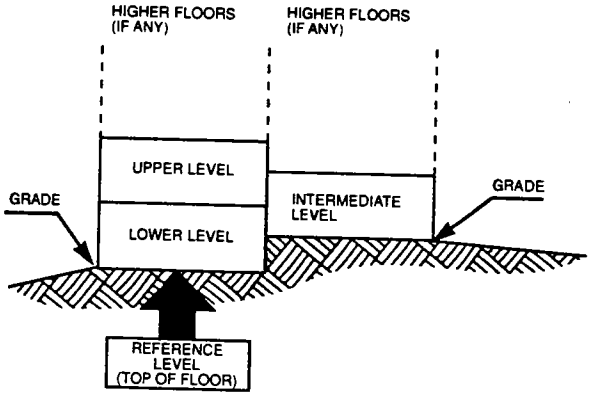
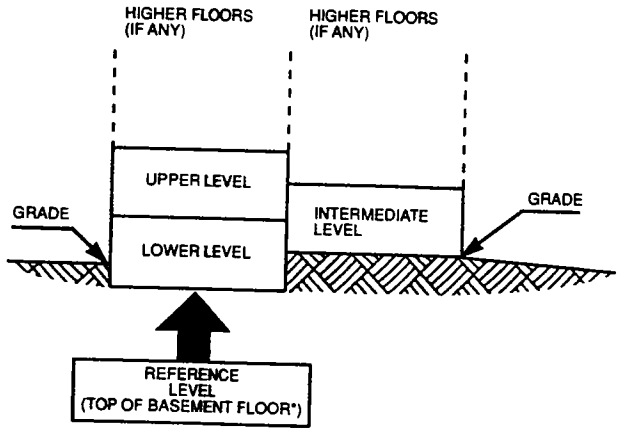


DIAGRAM NUMBER 4

ALL SPLIT LEVEL BUILDINGS, EITHER DETACHED OR ROW TYPE (E.G., TOWNHOUSES, ETC.); WITH OR WITHOUT ATTACHED GARAGE.

Distinguishing Feature - The lower level *(or* intermediate level) is below ground level (grade) on *all* sides*.



** Under the National Flood Insurance Program's risk classification and insurance coverage, a floor that is below ground level (grade) on all sides is considered a basement even though the floor is used for living purposes, or as an office, garage, workshop, etc.*

55-23

Note: In all A Zones, the reference level is the top of the lowest floor; in V Zones the reference level is the bottom of the lowest horizontal structural member (see diagram on page 2). Agents should refer to the Flood Insurance Manual for instruction on lowest floor definition.

DIAGRAM NUMBER 5

ALL BUILDINGS, INCLUDING MANUFACTURED (MOBILE) HOMES ELEVATED ON PIERS, POSTS, COLUMNS, SHEAR WALLS, WITH OR WITHOUT PARKING AREA BELOW ELEVATED FLOOR.

Distinguishing Feature - For all zones, the area below the elevated floor is open, with no obstruction to the flow of flood waters (open wood lattice work or readily removable insect screening is permissible).

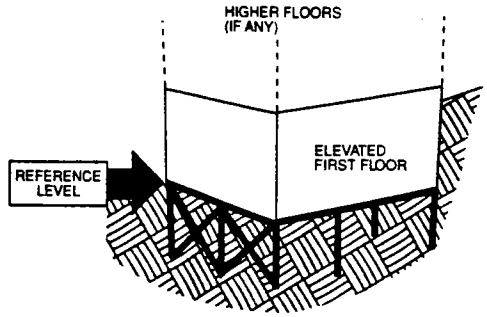


DIAGRAM NUMBER 6

ALL BUILDINGS, INCLUDING MANUFACTURED (MOBILE) HOMES ELEVATED ON PIERS, POSTS, COLUMNS, SHEAR WALLS, WITH OR WITHOUT PARKING AREA BELOW ELEVATED FLOOR.

Distinguishing Feature - For V Zones only, the area below the elevated floor is enclosed, either partially or fully, by solid breakaway walls.** When enclosed area is greater than 300 square feet or contains equipment servicing the building, use Diagram Number 7; this will result in a higher insurance rate. The enclosed area can be used for parking, building access or limited storage.

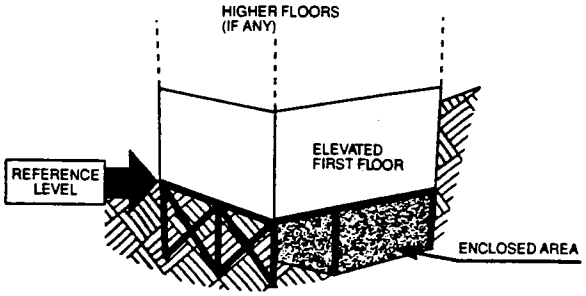


DIAGRAM NUMBER 7

ALL BUILDINGS, INCLUDING MANUFACTURED (MOBILE) HOMES ELEVATED ON PIERS, POSTS, COLUMNS, SHEAR WALLS, SOLID NON-BREAKAWAY WALLS, WITH OR WITHOUT PARKING AREA BELOW ELEVATED FLOOR.

Distinguishing Feature - For all zones, the area below the elevated floor is enclosed, either partially or fully, by solid non-breakaway walls, or contains equipment servicing the building. For V Zones only, the area is enclosed, either partially or fully, by solid breakaway walls** having an enclosed area greater than 300 square feet. For A Zones only, with an area enclosed by solid walls having proper openings.*** and used only for parking, building access, or limited storage, use Diagram Number 8 to determine the reference level.

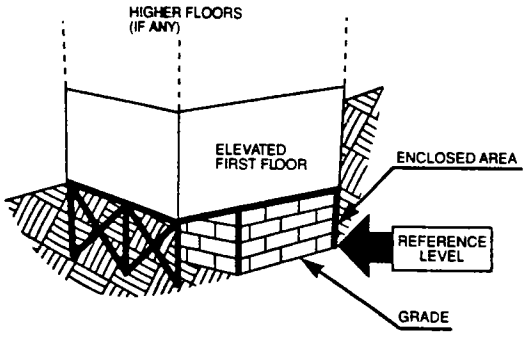
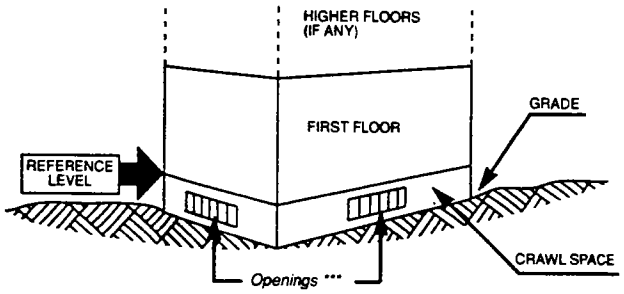


DIAGRAM NUMBER 8

ALL BUILDINGS CONSTRUCTED ABOVE AN UNFINISHED SPACE, INCLUDING CRAWL SPACE.

Distinguishing Feature - For A Zones only, the area below the first floor is enclosed by solid or partial perimeter walls, is unfinished, and contains no equipment servicing the structure. The area can be used for parking, building access, or limited storage.



* *Under the National Flood Insurance Program's risk classification and insurance coverage, a floor that is below ground level (grade) on all sides is considered a basement even though the floor is used for living purposes, or as an office, garage, workshop, etc.*

** *Solid breakaway walls are walls that are not an integral part of the structural support of a building and are intended through their design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation. An area so enclosed is not secure against forceable entry.*

*** *If the area below the lowest floor is fully enclosed, then a minimum of two openings are required with a total net area of at least one square inch for every square foot of area enclosed with the bottom of the openings no more than one foot above grade. Alternatively, certification may be provided by a registered professional engineer or architect that the design will allow equalization of hydrostatic flood forces on exterior walls. If neither of these criteria are met, then the reference level is the lowest grade adjacent to the structure.*

☆ U. S. GOVERNMENT PRINTING OFFICE: 1990 723-005/20260

55-24

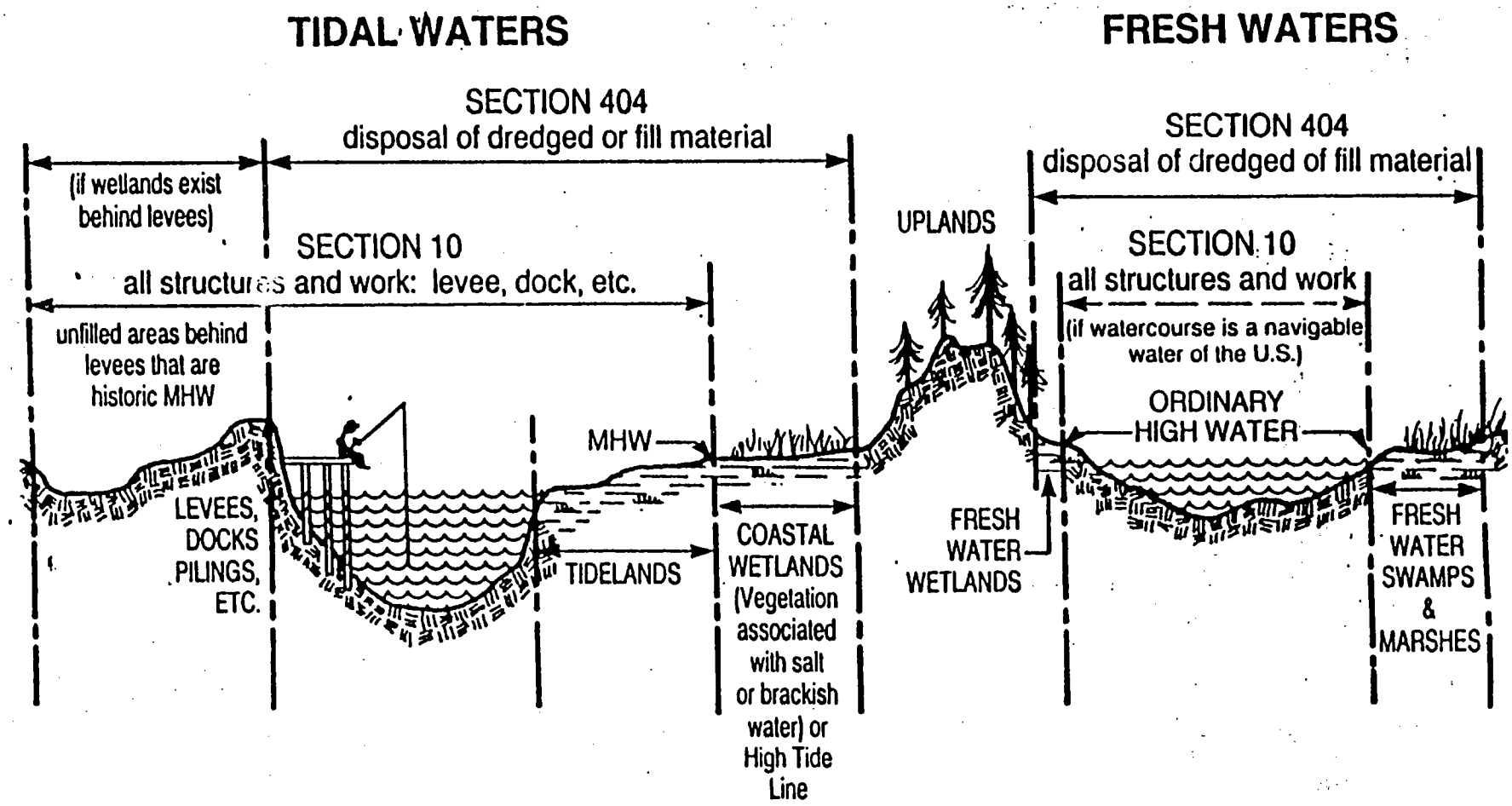
SUMMARY OF CORPS JURISDICTION

US Army Corps of Engineers
San Francisco District

STATUTE	ACTIVITIES COVERED	WATERWAYS COVERED	LANDWARD LIMIT OF JURISDICTION
SECTION 10 RIVER & HARBOR ACT, 1899	STRUCTURES OR WORK IN OR AFFECTING NAVIGABLE WATERS OF THE U.S. (E.G. DREDGING, CONSTRUCTION OF PIERS, SHORELINE PROTECTION, MARINAS, UNDERWATER PIPES, OVERWATER TRANSMISSION LINES, ETC.)	TIDAL WATERS, AND OTHER NAVIGABLE WATERS OF THE U.S. UP TO THEIR DECLARED LIMITS OF NAVIGABILITY	MHW IN TIDAL WATERS (HISTORIC MHW IN UNFILLED AREAS BEHIND LEVEES) OHW IN NON-TIDAL WATERS
SECTION 404 CLEAN WATER ACT	DISCHARGES OF DREDGED OR FILL MATERIAL	WATERS OF THE U.S. (INCLUDING ADJACENT WETLANDS)	MTL OR LANDWARD LIMIT OF WETLANDS IN TIDAL WATERS OHW OR LANDWARD LIMIT OF WETLANDS IN NON-TIDAL WATERS
SECTION 103 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT, 1972	OCEAN DUMPING OF DREDGED MATERIAL	OCEAN WATERS (TERRITORIAL SEAS AND HIGH SEAS)	MLLW

53-25

Scope of Corps Regulatory Jurisdiction



US Army Corps of Engineers
San Francisco District

NOTE:
IN ADDITION TO SECTIONS 10 AND 404 JURISDICTIONS, THE CORPS REGULATES THE TRANSPORTATION OF DREDGED MATERIAL FOR THE PURPOSE OF DISPOSING INTO OCEAN WATERS (SECTION 103).

Regulatory Functions Branch
U. S. Army Corps of Engineers
211 Main Street
San Francisco, CA 94105

53-26

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

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THOMAS A. TIDEMANSON, Director
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JAMES L. EASTON, Chief Deputy Director
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ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 2418
LOS ANGELES, CALIFORNIA 90051

IN REPLY PLEASE
REFER TO FILE:

March 31, 1986

TO WHOM IT MAY CONCERN:

FROM: T. A. Tidemanson
Director of Public Works

LEVEL OF FLOOD PROTECTION
FILE NO. 2-15.321

The following Level of Flood and Drainage Protection Standards has been adopted by the Department of Public Works:

I. Capital Flood Protection (Based on a rainfall with a probability of occurrence of once in 50 years).

A. Natural watercourses -

All facilities that are constructed in or intercept flood waters from natural watercourses shall be designed for the Capital Flood. These include open channels, closed conduits, bridges, and dams or debris basins (not under State of California jurisdiction). See Attachment A for definition of a watercourse.

B. Floodways - All areas mapped as floodways shall be mapped based on the Capital Flood.

C. Natural Depressions or Sumps -

All facilities that are constructed to drain natural depressions or sumps shall be designed for a Capital Flood. These include channels, closed conduits, retention basins, detention basins, pump stations and highway underpasses. See Attachment A for definition of sumps.

D. Culverts under major and secondary highways.

II. Urban Design Storm (Based on a rainfall with a probability of occurrence of once in 25 years).

The Urban Design Storm shall be the level of protection for all developed areas with other than conditions described in I above.

The surface capacity of the street or highway may be used up to a water surface level not exceeding the road right of way line. The available surface capacity of the street, however, may be restricted by vehicular or pedestrian traffic requirements see (Attachment A). If a storm drain is required to reduce the water surface level in the street to an acceptable level, it shall be designed for not less than 10-year frequency rainfall flow rates. The storm drain capacity shall be increased where necessary to lower the water surface level for the 25-year frequency storm to within road right of way or to meet other requirements as indicated in Attachment A.

III. Probable Maximum Flood -

All dams (earth embankment, concrete or other materials) that fall under the control of the State of California laws defining dams shall be constructed to safely pass the probable maximum flood as determined from the probable maximum precipitation as defined by the National Weather Service.

See Attachment B for background and other pertinent data.

GJP:yo

Attach (2)

Attachment A
Level of Flood Protection

Definitions:

1. Natural Watercourses -

A natural watercourse is a path along which water flows as a result of natural topographic features. Furthermore, for the purposes of this definition, a natural watercourse drains a watershed greater than 100 acres and also meets one or more of the following conditions:

a. Experiences flow velocities greater than five feet per second while carrying a Capital Flood.

b. Has flow depths greater than 1.5 feet while carrying a Capital Flood.

c. Would have water surface elevations, while carrying a Capital Flood, within one foot of the bases of adjacent habitable structures, if such water surface elevations would result from construction of facilities with less than a Capital Flood capacity.

2. Depression or sump -

A depression or sump is an area for which there is no surface route to outlet flows. Furthermore, for the purposes of this definition, a depression or sump also meets one or more of the following conditions:

a. Would have a ponded water surface elevation, during a Capital Flood, within one foot of the bases of adjacent habitable structures, if such elevation would result from construction of facilities with less than a Capital Flood capacity. This condition does not apply if there is a surface route for outflow such that the ponded water surface cannot reach the bases of adjacent structures during a Capital Flood.

b. In a roadway, would have a ponded water surface elevation higher than the elevation of the public right of way line if facilities with less than a Capital Flood capacity were constructed. This condition applies to flows which reach the roadway upstream of the sump and are conveyed to the sump by the roadway.

c. Has a ponded depth of three feet or greater.

3. Street Capacity -

Maximum street capacity as defined herein is the capacity of the street section to carry flows within street right of way (depth of flow does not exceed either property line). See Highway Design Manual for criteria on quantity of water to be removed from the road surface to provide favorable conditions for vehiclular and pedestrian traffic for particular level of protection. This may increase the level of protection required to be provided by the drain.

Attachment B
Level of Flood Protection

Background

The Hydrology SubCommittee has reviewed the level of protection standards of the three former Departments (County Engineer, Road, and Flood) as well as all major agencies in Southern California. In addition, we have met with the County Counsel for legal advice.

The Flood Control District (FCD) in cooperation with the United States Army Corps of Engineers (C of E) has constructed the major flood control facilities in Los Angeles County. These facilities which have channelized the rivers and major streams have been designed for Capital Flood protection and, in the case of the C of E, their Standard Project Flood (SPF). Analysis has indicated that these are comparable levels of protection. In most cases, the SPF equals or exceeds the Capital Flood.

The Los Angeles County Road Department has also used the criterion of the FCD Capital Flood when providing facilities to cross over (bridge) major streams.

The County Engineer required Capital Flood protection in all instances where the FCD had indicated a comprehensive plan channel or had hydrology for a major stream. They required the developers to use FCD flow rates.

The level of protection for urban areas differed between the three Departments. The County Engineer required all new tract developments to use the 25-year frequency level. This could be obtained with a combination of storm drain and surface street capacity. However, if off site capability to accept the excess surface flows was limited, they required the drain exiting the development to carry the 25-year frequency flows. In the majority of the cases, therefore, the developers chose to construct the entire storm drain system for the 25-year frequency flow rates. The Road Department followed the County Engineer requirements for new tract developments. Road Department Cash Contract projects utilized a 10-year frequency protection level obtained by a combination of a storm drain and street surface capacity. The quantity of surface flow varied dependent upon whether the project fell under local or federal requirements. Sumps were designed to the Capital Flood protection level.

The FCD required the 10-year frequency level for storm drains in streets for the four Storm Drain Bond Issue Programs 1952-1970 and/or District projects constructed since the 1970's. Prior to these Storm Drain Bond Issues, the FCD was not involved to any great extent in other than major drainage channels. However, all projects including tributary storm drains in this period were constructed to the 50-year frequency level.

This background suggests that certain standards have been determined to be reasonable levels of protection. Our opinion, based on discussions with County Counsel, is that any lower levels of protection in future projects or approvals would increase the chances of liability should damage occur.

Compatibility to Federal Flood Insurance Requirements

The Federal Insurance Agency (FIA) has set the 100-year flood as their standard. The hydrology is based on historical runoff records to produce the 100-year flow rate. There is no allowance made for future urbanization. In developed areas the standard requires the finished floor elevation of proposed habitable structures to equal or exceed the water surface of the 100-year flood.

Our investigation indicates the recommended levels of protection, Capital Flood and Urban Design Storm, will meet or exceed FIA requirements.

A frequency analysis of the entire County shows that the FIA standard is between the 25-year and 10-year rainfall frequency levels. In most areas, facilities designed for the 10-year rainfall frequency level, when combined with the available street capacity, provide sufficient protection to meet FIA requirements. However, if development of an area changes and FIA restudies the area, 10-year rainfall frequency facilities may prove inadequate.

The proposed 25-year rainfall frequency level will meet FIA standards even if development changes.

The recommended protection levels are based on meeting FIA standards.

Compatibility with Existing Systems

The level of protection standards recommended may have to be modified in cases where the capacity of the conduit into which the proposed drain outlets has limited capacity. Where no relief drain is planned, it is recommended that the drain be restricted to the capacity available at its outlet. In cases where a relief drain is anticipated, the proposed drain is recommended to be sized for the appropriate level of protection.

There are enumerable possible situations, and all cannot be covered in this policy statement. The appropriate Section Head in the Department should review the proposed drainage system and the outlet conditions based on this policy and determine the required level of protection. In situations where the determination may not be clear-cut, the Section Head should recommend to his Division Head that it be referred to the Q Committee for its recommendations to the Director of Public Works.

Economics

We believe the proposed level of protection will not result in a change in cost for either design or construction for Department-constructed drains or developer-constructed drains in a majority of the situations.

The Urban Design Storm (25-year) will not increase requirements for drains required in new developments. The Department-constructed drains may increase in size in areas where the terrain is very flat and street capacity is limited. We have analyzed a number of different situations on prior projects and concluded that design costs would not increase more than one percent and construction costs would increase between two percent and five percent. However, we believe the number of projects affected will be fewer than 20 percent.

There may be some situations where under previous County Engineer policy construction in or intercepting watercourses used a 25-year level, whereas now a 50-year level will be required. It is difficult to determine exactly what percentage of the projects will be affected. In any event, the cost increase for these projects would be approximately 8 percent.

Rainfall vs. Runoff Records

The Committee recommends the continued use of rainfall records to determine the design storm. The major reason for this is that rainfall records are not affected by urbanization, whereas runoff records tend to be poor predictors of future runoff in areas where development is changing. Although we now have considerable length of runoff records, there has been constant urbanization throughout the record period. In addition, there is continued urbanization in the Santa Clara Valley, Antelope Valley, and certain areas on the south slope of the San Gabriel Mountains and in the West County area.

Discussion of Comments

Comment: Use a straight 10-year rainfall level of protection for all storm drains in streets.

Reply: The proposed level of protection should in the majority of the cases result in storm drains designed for 10-year Q's. The proposed level of protection is a combined system of utilizing street capacity and drain. It will in all cases meet Federal Flood Insurance standards. It will not lower present levels of protection required by the County Engineer, whereas a straight 10-year would in some cases.

Comment: The proposed level of protection will increase cost.

Reply: An analysis of drains in a number of different areas indicate that in the majority of the cases, the street sections have adequate capacity for the difference between a 25-year and 10-year Q. In the areas with flat street slopes or other areas where street capacity may be limited for one reason or another, the increased costs for the drain and appurtenances range between two percent and five percent. Design costs will be increased approximately one percent.

Comment: We feel you must prepare a precise policy regarding the handling of the situation where the new hydrology method produces flows that are greater than the outletting system's capacity. We feel the new method will produce greater Q's in almost all cases based on the results of hydrology reviews made during the Bond Issue Programs. As you are aware, the Bond Issue Programs guideline was to accept flow rates based on the County Engineer's hydrologic method when the resultant Q's were as much as 15 percent lower than the Q's generated by the District's short-cut rational method. It is recommended that you adapt this 15 percent figure as a guideline for future hydrologic studies.

Reply: A policy regarding the compatibility of a proposed drain to an existing outletting system is given in this statement and if interpetation is required, it will be given by the appropriate Department Section Head. Difficult situations will be referred to the Q Committee for its recommendation to the Director. The 15 percent guideline would no longer be appropriate. It was used up through the 1964 Bond Issue Projects. At that time, there was a difference in some coefficients used, and on very large areas the Q's near the end of the drain using the County Engineer method were sometimes lower than the District method. However, the Q's at the upper end of the drain were usually larger than the District's using the County Engineer method.

Comment: Will a 10-year rainfall frequency drain result in acceptable flooding levels during the FIA 100-year flood? Will the flooding levels be below finished floor elevations? Can we use a standard that will adjust the drain size to account for this if necessary?

Reply: Our investigation indicates that in most cases 10-year drains will give protection such that flooding levels will not exceed FIA standards. A frequency analysis when considering the entire County indicates that the FIA flooding levels are between the 10-year and 25-year rainfall frequency flooding levels. A standard could be developed to adjust drain sizes to meet FIA standards, however, it would be more complex. It also would not produce uniform results throughout the County.

Summary

The Hydrology SubCommittee has evaluated all the comments received on the proposed level of protection policy. After careful consideration of all points of view, we believe we have recommended a policy that is in the best interests of the public and the Department. We believe this policy will provide adequate flooding protection for Los Angeles County with insignificant, if any, increase in costs and minimize future Department liability.

GJP:yo

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

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THOMAS A. TIDEMANSON, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O.BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

January 15, 1991

IN REPLY PLEASE REFER TO FILE: H-1

TO WHOM IT MAY CONCERN:

FROM: T. A. Tidemanson
Director of Public Works

DRAINAGE FACILITIES FOR THE SANTA CLARA RIVER AND MAJOR TRIBUTARIES

The Santa Clara River Basin is the second largest of the eight moderately developed drainage basins in Southern California and a major source of sediment for the beaches along the coast. In addition, the groundwater basins that underlie the Santa Clara River are an important source of water for the valley. It is important that the groundwater basins continue to be recharged by streambed percolation.

The following standards have, therefore, been adopted by the Department of Public Works to maintain, as close as possible, the environmental balance that exists in the Santa Clara River Basin. Note these standards supersede all previous standards and reports written for the Santa Clara River Basin.

I. The design of flood protection facilities for the Santa Clara River should be based on the following:

   a. The Department Capital Flood flow rates (50-year rainfall Q, bulked only).
   b. Soft bottom waterways with levees.
   c. Protective levees, and additional facilities such as drop structures or stabilizers as required, should be designed using Department criteria.

II. The design of flood protection facilities for major tributaries of the Santa Clara River that have been mapped by the Department as floodways (see Appended map) or have a flow rate of 2,000 cubic feet per second (burned and bulked Q) or greater as determined by the Department's Capital Flood hydrology, should be based on items b and c, above.

III. The design of flood protection facilities for tributary streams to the Santa Clara River that have existing flood control improvements should be compatible with those existing facilities. See Attachment A.

IV. The soft bottom waterways should be designed to maintain an equilibrium between sediment supply to the waterway and sediment transport through the waterway. In cases where a soft bottom waterway is subject to significant deposition due to high sediment supply or significant erosion due to lack of sediment supply, then the drainage concept should be discussed with the Department prior to submitting plans.

During the development of this policy, it was reviewed with the County's Land Development Advisory Committee and others who had various questions and comments. Attachment B replies to those questions and comments.

GJP/SK:gm/SANTA

Attach.

55-37

ATTACHMENT A
DRAINAGE FACILITIES FOR
THE SANTA CLARA RIVER AND MAJOR TRIBUTARIES

Main River/ Tributary	Current Improvement	Compatible Future Channel Improvement
Santa Clara River	Soft bottom with protective levee	Soft bottom with stabilizers where necessary
Tick Canyon	Lower reach- concrete channel	Upper reach- concrete channel with debris control
Mint Canyon	Lower reach- concrete channel	Middle reach- concrete channel Upper reach- soft bottom with stabilizers
Bouquet Canyon	Middle reach- soft bottom with stabilizers	Lower and Upper reaches- soft bottom with stabilizers
Dry Canyon	Lower reach- concrete channel	Upper reach- concrete channel
Haskel Canyon	Lower reach- concrete channel	Upper reach- soft bottom with stabilizers
Plum Canyon	Lower reach- concrete channel	Upper reach- concrete channel with debris control or soft bottom with stabilizers
South Fork- Santa Clara	Lower reach- Soft bottom with stabilizers Middle reach- concrete channel	Lower reach- Soft bottom with stabilizers Upper reach- concrete channel with debris control
Pico Canyon	Lower reach- partly soft bottom with stabilizers partly concrete channel	Upper reach- soft bottom with stabilizers
San Francisquito	Lower reach- soft bottom with stabilizers	Upper reach- soft bottom with stabilizers
Violin Canyon	Lower reach- concrete channel	Upper reach- concrete channel with debris control
Castaic Creek	Below I-5 Freeway- soft bottom with protective levee	Above I-5 Freeway- soft bottom with stabilizers or concrete channel

SK:cmb/ATT

Attachment B

The following are comments received from the public on this policy and the Department's reply:

Comment: Will debris basins be discouraged in all cases of Q's greater than 2,000 cfs, and if not, when will they be allowed?

Reply: As indicated in the policy memo, debris basins are to be used primarily to be compatible with existing improvements as in the case of an existing channel which was designed with the assumption that a debris basin will be built upstream. In locations where an analysis indicates significant sediment and questionable passage of sediment through a channel, the drainage concept should be discussed with the Department prior to submittal.

Comment: What happens when a development occurs above an existing debris basin? Does the new system remain in its natural state, or is the existing debris basin relocated above the proposed development?

Reply: Our investigation indicates that none of the existing debris basins in Santa Clara Basin have inflow rates that exceed 2,000 cfs. Therefore, developments upstream of an existing debris basin will probably require a new debris basin.

Comment: If major rivers and tributaries are to be left in a soft bottom system, can the system be covered?

Reply: Natural bottom channels preserve the integrity of the natural conditions that allow the continuation of habitat in the watercourses. Covering the soft bottom system would defeat that purpose. Also, a covered section would not receive wide acceptance from environmental groups and agencies such as Corps of Engineers and Fish and Game. Covered sections will primarily be limited to street crossings.

Comment: Can the soft bottom system allow for higher velocities when steeper slopes occur, or will drop structures be the only allowed means of reducing the velocity?

Reply: Drop structures or point stabilizers are the most practical structures for mitigating scour, controlling the grade, and reducing the velocities. The appropriate type of structure will depend on the velocities and scouring potential.

Comment: Will short sections of pipes or culverts be allowed to be debris carrying, such as commercial areas or at street crossings, or will bridges be required?

Reply: The Department's August 3, 1988 and November 15, 1989 memos indicate that closed bulked flow storm drains can be used if the debris potential is less than 1,000 cubic yards.

Whether a bridge or a culvert is required for soft bottom channel depends on the flow rates and the magnitude of debris. Short culverts may be acceptable under certain cases, but in general bridges should be anticipated.

Comment: Will existing systems that are designed for old debris curve capacities need to be redesigned when developments upstream are proposed?

Reply: Although the bulking factors were reduced in the Santa Clara Basin, some existing improved channels have less than a Capital Flood protection. These channels are undersized and need improvement. As for debris production zone changes, our investigation indicates that only three debris basins in the Santa Clara River are under capacity based on the new criteria. Any under capacity debris basins will need to be brought up to capacity.

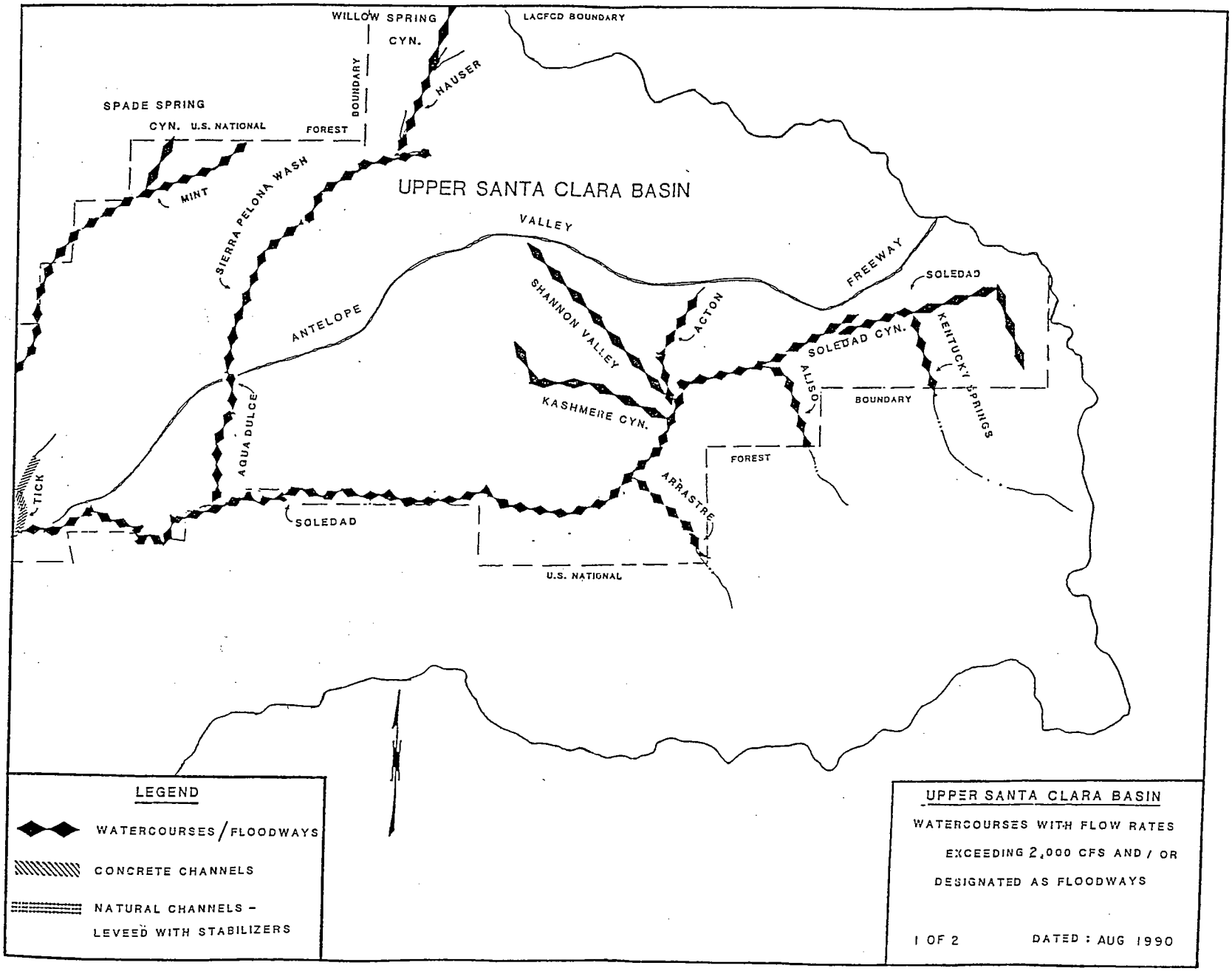
Comment: In the case where a covered channel exists upstream and an existing open channel exists downstream (such as Mint Canyon north of Soledad Canyon Road), is the new system that is an "in fill" to be designed with a soft bottom?

Reply: The proposed policy has considered compatibility with existing improvements. Attachment A of the policy memo identifies the major existing improvements and the recommended compatible future channel improvements.

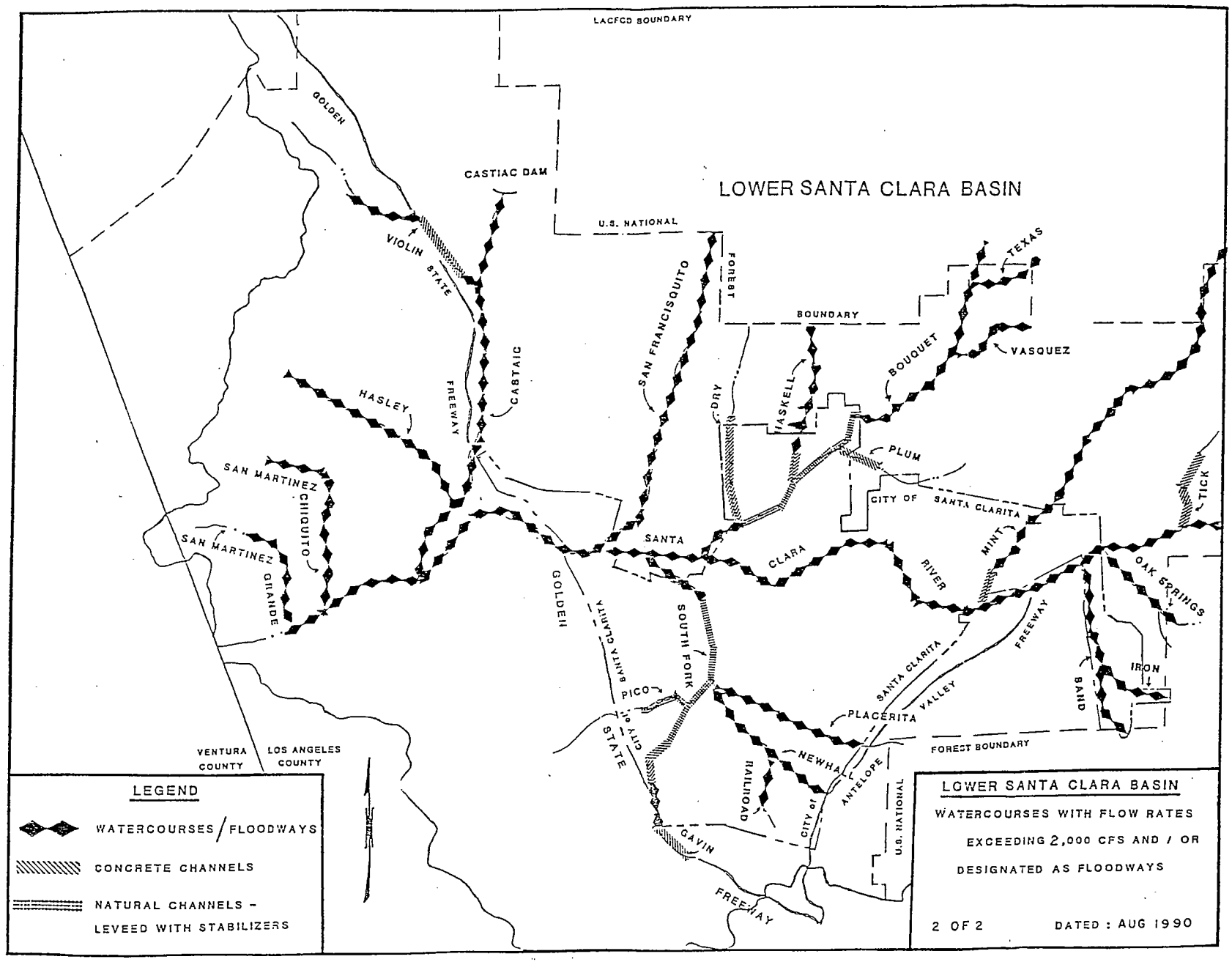
For Mint Canyon, where there are two existing concrete channel systems, the policy recommends a concrete open channel for the reach between Soledad Canyon Road and Solomint Road.

It should be noted that the "in fill" channel is within the City of Santa Clarita and any improvements would be subject to their review.

IG:cmb/C


WILLOW SPRING CYN.
LACFCD BOUNDARY
BOUNDARY
HAUSER
SPADE SPRING CYN.
U.S. NATIONAL FOREST
MINT
SIERRA PELONA WASH
UPPER SANTA CLARA BASIN
VALLEY
FREEWAY
SOLEDAD
ANTELOPE
SHANNON VALLEY
ACTON
SOLEDAD CYN.
KENTUCKY SPRINGS
ALISO
BOUNDARY
KASHMERE CYN.
AQUA DULCE
FOREST
TICK
ARRASTRE
SOLEDAD
U.S. NATIONAL
LEGEND
WATERCOURSES / FLOODWAYS
CONCRETE CHANNELS
NATURAL CHANNELS - LEVEED WITH STABILIZERS
UPPER SANTA CLARA BASIN
WATERCOURSES WITH FLOW RATES EXCEEDING 2,000 CFS AND / OR DESIGNATED AS FLOODWAYS
1 OF 2
DATED : AUG 1990

55-31


LACFCD BOUNDARY
LOWER SANTA CLARA BASIN
GOLDEN
CASTIAC DAM
VIOLIN
STATE
FREEWAY
CASTAIC
HASLEY
SAN MARTINEZ
CHIQUITO
SAN MARTINEZ
GRANDE
U.S. NATIONAL
FOREST
BOUNDARY
SAN FRANCISQUITO
DRY
HASKELL
BOUQUET
TEXAS
VASQUEZ
PLUM
CITY OF SANTA CLARITA
TICK
MINT
SANTA
CLARA
RIVER
OAK SPRINGS
GOLDEN
SANTA CLARITA
SOUTH FORK
PICO
CITY OF
STATE
SANTA CLARITA
FREEWAY
IRON
BAND
PLACERITA
VALLEY
FOREST BOUNDARY
NEWHALL
ANTELOPE
RAILROAD
CITY OF
U.S. NATIONAL
GAVIN
FREEWAY
VENTURA COUNTY
LOS ANGELES COUNTY
LEGEND
WATERCOURSES / FLOODWAYS
CONCRETE CHANNELS
NATURAL CHANNELS - LEVEED WITH STABILIZERS
LOWER SANTA CLARA BASIN
WATERCOURSES WITH FLOW RATES EXCEEDING 2,000 CFS AND / OR DESIGNATED AS FLOODWAYS
2 OF 2
DATED : AUG 1990

February 19, 1991

TO: Storm Drain Plan Checkers

FROM: David Diotalevi

PRIVATE DRAIN GENERAL NOTES

The P.D. General Note pertaining to additional concrete over invert reinforcement and callous note in profile can be interpreted in ways that result in unacceptable construction.

Therefore, effective immediately the following revised notes shall be used:

1. Unless otherwise specified in the profile on these plans, the pipe shall be manufactured with a minimum concrete over the steel in the invert of 0.75 inches for RCP up to 96 inches in diameter and 1.25 inches for pipe greater than 96 inches in diameter.

2. Callout in profile- "minimum concrete cover over the steel in the invert = X.Y Z inches. (The checker must add the applicable increment., 1, or 1.5 inches to the base cover of .75 or 1.25 inches.)

DAD.al

" 1989 "

COMMONLY FOUND SOURCES OF MALPRACTICE CLAIMS

This list was compiled from the experience of Ted C. Fairfield, consulting engineer, as a result of his experience as an expert witness and consultant in drainage litigation. The list is a compilation of perceived "high legal risk" drainage situations and is intended to create an awareness of potential liability problems for the seminar participants. Some are obvious and predictable, others are more insidious.

1. Design of a project's drainage system, as part of an agency's overall master planned drainage system, but where, for an interim period, critical elements are missing (inadequate outfall, overland flow from upstream, etc.).

2. No "safe outlet" for overtopping of local system during major storms (100-year storm versus lesser "in tract" criteria).

3. Garage floors not included in "lowest floor" determination.

4. Failure to provide for interim run-off from upstream property that will be drained elsewhere, upon its future development.

5. Inadequate attention to (lack of respect for) minor overland flows entering rear yards of peripheral lots of a project (boundary condition).

6. Design of outlets for "sump areas" -- failure to account for accumulative failure (overtopping) of "undersized" upstream systems.

7. Failure to anticipate or account for minor rises in "design" water surfaces of outfall channels, due to siltation, lack of maintenance or changed conditions, both past and future.

8. Use of "drainage arrows" instead of more finite details of surface drainage systems (cross sections and elevations); especially

in townhouses or other common interest projects. Plaintiffs' lawyers love this one!

9. Absence of a "system" of either compliance monitoring or hold harmless agreements, as to finish grading around homes (side yard swales, common area drainage, etc.).

10. Use of "minimal" surface drainage slopes from rear yard to street or especially across common areas. Often, this is wishful thinking, rendered invalid under real world conditions.

11. Inadequate erosion control measures, both during construction and post-occupancy, causing plugged drainage systems and other forms of damage.

12. Failure to deal adequately with subsurface drainage; causing slides, differential settlement, ponding water, etc.

13. Failure to realize that Homeowners' Associations, in common interest subdivisions, will judge drainage of both their individual units and their landscaped common areas and private streets by a much more rigid and aesthetic standard than is used for streets and driveways in more traditional projects (the same is true for planted slopes and retaining walls -- they are expected to remain aesthetically pleasing, while functioning well with little or no maintenance). Solutions involve substantial increase in formal drainage systems at substantially more cost.

14. Failure to adequately depress common areas below adjacent house pads, resulting in moisture being retained on and in house pads. (Turf thickness is often ignored).

15. Failure (or lack of contractual authority) to stake or otherwise control final grades in common areas and other landscaped facilities,

often with finished results that differ from drainage design assumptions (e.g., inlets on tops of berms instead of at low points, etc.).

16. Inadequacy of concrete V-ditches and other surface water interceptor devices; structural, dimensional, capacity, and elevation controls.

17. Lack of structural distinction (curbs, gutters, protective slopes, etc.) between private streets and garage floors or driveway aprons, so that minor flooding of streets inherently results in flooding of garages.

18. Inadequate slopes on asphalt surfaces, contributing to premature pavement failure.

19. Creation of what is in effect a lesser standard storm drain system in PUD private streets, having less than the traditional street widths and curb/sidewalk sections. If, in traditional streets, the difference between local criteria and 100 year flows is stored in or passed through these streets, where does that flow go in the case of the lesser street sections?

20. To what degree may an engineer or developer "rely upon" the accuracy and correctness of a FEMA map (say, a FIRM Map)? Is to do so without an independent review of upstream and surrounding conditions -- perhaps even independent review of upstream dam capacities, major channel flows, etc. --- considered in all cases to be an adequate standard of care, or do some situations suggest the need for a higher level of diligence?

CHAPTER 56

DRAFT

DAMS

There are three types of regulated dams in California: Federally owned and maintained, large dams under State regulations and small dams under County ownership and regulation. The definition of a large dam under State regulation is described in Section B. Small dams for the purposes of this manual are defined in Section C.

A. Federal Dams

Federally owned and operated dams are exempt from state and local code regulations. The Federal Government conducts its own regulatory procedures. These dams are exempt from State regulations. However, the Federal Government generally cooperates with the State and Local Agencies in protecting public health and safety.

B. Large Dams

Large dams under State regulation for the purposes of this manual are those dams subject to the regulation of the California Department of Water Resources under Division 3, "Dams and Reservoirs" of the California Water Code. Division 3 contains two parts, "Supervision of Dams and Reservoirs" (Sections 6000 through 6470) and "Fishways over Dams" (Sections 6500 and 6501). The definition of a dam subject to this regulation is in Section 6002 of this code. Part I of this code affects the Department of Public Works and anyone who constructs a dam and operates a dam subject to the State Code regulations. The California Department of Water Resources, Division of Safety of Dams, is responsible for supervising all dams and reservoirs under State jurisdiction. The California Department of Water Resources has issued regulations regarding the responsibilities for supervising the safety of dams which is Title 23 of the California Code of Regulations, Subchapter I, "Dams and Reservoirs" (Sections 301 through 333). These regulations issued by this Department for State statute procedures have the force of law. These regulations define the obtaining of permits, paying of fees and how to satisfy the Department that the dam is being operated safely. This Code has a definition for small dams in the administration of their responsibilities. However, small dams as defined in the State Code, is not the same as the definition in the County Code and does not apply in this Manual. See Chapter 38 of this Manual for dams meeting this classification.

C. Small Dams

Those dams, which are in Los Angeles County and are not federally owned, do not come under the jurisdiction of the State of California and are now within the unincorporated areas of the Los Angeles County or the Los Angeles County Flood Control District are regulated in the County Code under Title 11, "Health and Safety", Chapter 11.62, "Small Dams". This section of the County Code defines what constitutes a small dam and is subject to regulation by the County of Los Angeles. There are some barriers which impound insufficient amount of waters as defined in this Code that do not require regulation by any government agency. However, those dams meeting the definition of a small dam under the County Code are subject to the regulations as described in the County Code and in Chapters 26 and 38 of this Manual.

CHAPTER 57

BASINS AND OPEN CHANNELS

Basins and open channels are subject to drainage law as described in Chapter 55 of this Manual. In addition, there are other statues and regulations that affect basins and channels that are not applied to Chapter 55. The design of basins and open channels subject to the "state of the art" criteria along with the regulations of the responsible agency for the operations and maintenance of the facility. In addition, there may be a State Agency that issues its regulations regarding the enforcement in the compliance of State Codes.

The criteria described in Chapters 55 and 56 of this Manual also apply to this chapter.

A. State Regulations

Article 9, "Abandoned Excavations," (beginning with Section 50230) of Chapter 1 of Part I of Division I of Title 5 of the California Government Code applies to all basins and open channels regarding attractive nuisance laws designed to protect the public, mainly children.

B. County Codes

Chapter 11.52, Water Hazards, of Title 11 of the County Code also sets requirements regarding basins and open channels as for the elimination or reducing attractive nuisances to children and other members of the public.

C. County Policies

The following are policies established by the Division:

a. Mitigating Landslides by use of Debris Basins

The Administrative Memo on Page 57-2 defines the standards that must be met before approval of a debris basin that must receive landslide debris.

b. Alternate Fencing Design

Fencing requirements to reduce attractive nuisances are usually established by statewide organizations that recommend uniform drawings. These uniform designs have been updated as the result of numerous legal decisions by the Courts and other experts in the interpretation of the applicable Codes.

For aesthetic purposes, the Department has allowed the use of wrought iron fencing instead of the usual chain link fencing or concrete block walls where a home owner association will maintain the fence and when the fence lies outside the flood control easement.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
ADMINISTRATIVE MANUAL

MITIGATING LANDSLIDES BY USE OF DEBRIS BASINS

When a debris basin is impacted by the proximity of a landslide, as an alternative to stabilizing the landslide in accordance with County standards, the developer may be allowed to enlarge the basin capacity to accommodate the total amount of anticipated material from the landslide as well as the design volume for debris control. The debris contribution from the landslide shall be the total landslide volume less any part that will not impact the basin because of natural or constructed mitigation measures.

The type of debris control facility required will be based on the total of anticipated material from the landslide plus the design volume for debris control. The projected geometry of the slide must be such that it will not adversely impact the ability of the basin to perform it's primary function. Also, the consultant geologist must indicate by "309 statement" in his/her report that the design is safe and that there will be no adverse impact on offsite properties.

APPROVED:

Donald L Wolfe

DONALD L. WOLFE
Assistant Deputy Director

DLW:acg
(ldd-gs101)

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CHAPTER 58

ROADS

Most highway design procedures and requirements are established by the Federal Government through the American Association of State Highway and Transportation Official (AASHTO), and California Department of Transportation (Caltrans). The Local Programs Manual issued by the Office of Local Assistance of Caltrans defines the role of both the Federal and State government in regulating highway design requirements. Chapters 50, 52, 53 and 55 contain material that apply to the road, design and construction. The roles of the various organizations and the Code contents in establishing the requirements presented in Chapters 21, 22, 44 and 45 of this Manual are as follows:

I. Federal Government

The Federal Government controls highways design because they collect federal highway taxes and fees and return the funds back to the states from where they are collected. In fulfilling this role the Federal Government has had the goal to encourage and require uniform highway design standards throughout the United States and in some respects the rest of the world. The federal role is as follows:

A. Federal Codes

Title 23 of the United States Code defines the basic role of the Federal Government in establishing uniform highway design policy criteria throughout the United States and throughout the rest of the world where the United States provides financial assistance in the construction of roads and highways. The influence of the Federal Government as previously mentioned is primarily through distribution of funds for the financing of projects. If states do not enforce federal requirements than through this act they become ineligible to receive federal assistance on highway projects. This Title 23 is very complex in that it lists many programs desired by Congress. This includes requiring states to have a state highway department, protection of archeological and paleontological sites promoting participation by small and minority business enterprises, etc.

In addition to Title 23 there is other legislation affecting highway design. They are as follows:

1. Section 108(b) of the Federal-Aid Highway Act of 1956
   This Act defines the responsibility or minimum standards for construction, reconstruction or improvement of bridges and tunnels of the interstate systems.

2. Section 203 of the Highway Safety Act of 1973
   This Act requires states to determine which railroad crossing requires separation, relocation, or protective devices and requires states to establish and implement of scheduling projects for this purpose. It also sets minimum standards of design.

3. Section 105 of the Federal Aid Highway Act of 1978
   This Act contains provisions for resurfacing of the interstate highway system.

4. Section 202 of the Highway Safety Act of 1978
   This Act sets minimum standards for highway safety along with financing to carry out its provisions.

5. Surface Transportation Assistance Act of 1982
This Act contains several sections for assisting states in improving the interstate system, parkways and other streets within the land.

B. Federal Highway Administration (FHWA)

The Federal Highway Administration (FHWA) was established to administer all highway programs of the Federal Government in the Department of Transportation. It is responsible for administrating Title 23 of the United States Code discussed above in Item A. Basically the Federal Highway Administration communicates directly with State Highway Departments who in turn communicate with local agencies.

C. National Highway Institute

The Secretary of Transportation is required by Congress to establish and operate in the Federal Highway Administration a National Highway Institute. This Institute is to develop and administer in cooperation with State Highway Departments training programs of instruction for Federal Highway Administration and State and Local Highway Department employees engaged in federal aid highway work. The training programs include modern development techniques and procedures relating to highway planning, environmental factors, acquisition of rights of way, engineering, construction, maintenance, contract administration, inspection, etc. A fund is established by the Federal Government given out to the local highway departments to pay for the tuition for employees to receive this training.

D. National Highway Safety Advisory Committee

There is established in the Department of Transportation a National Highway Safety Advisory Committee, composed of administrators from the department and 35 members appointed by the President of which no more than four shall be federal officers or employees. The appointed members shall be appointed from representatives of various state and local governments including state legislatures, and of public and private interests contributing to, affected by or concerned with highway safety. This Committee shall advice, consult with, and make recommendations to the Secretary of Transportation on matters relating to the activities and functions of the department in the field of highway safety. The Committee is authorized to: (1) review research projects or programs submitted to or recommended by it in the field of highway safety and recommend to the Secretary of Transportation for proceeding under this title any such projects which it believes show promise of making valuable contributions to human knowledge with respect to the cause and prevention of highway accidents and (2) to review prior to issuance, standards proposed to be issued by order of the Secretary of Transportation under the provisions of Title 21 discussed earlier.

II. The American Association of State Highway and Transportation Officials (AASHTO)

The American Association of State Highway and Transportation Officials (AASHTO) is a voluntary organization composed of officials from State Highway Departments and the Federal Department of Transportation and is dedicated to establishing uniform highway and street standards throughout the United States. This organization achieves considerable power since the Federal Government imposes standards established by ASSHTO in regulating funds distributed to the states and local governments. The publication "A Policy on Geometric Design of Highways and

Streets" published in 1990 contains minimum guidelines in the designs of roads, streets and highways. This also includes subdivisions. This book is the basic guideline on this subject.

III. State Regulations

Highways, roads and streets are regulated at the state level primarily by the California Streets and Highways Code. The Subdivision Map Act is permissive in that it allows local agencies to set minimum requirements for highway and street designs within a subdivision. The Agency responsible for overseeing highway programs is the Department of Transportation (Caltrans). The basis for State regulation of highways, streets and road designs are in the following Codes:

A. Subdivision Map Act

As discussed in Chapter 52, the Subdivision Map Act, which is Division 2 and 3 of the California Government Code, is the basis for determining subdivision developments. Most of this act is permissive in which local agencies have the development prerogatives. This also applies to roads and highways within the subdivision. This Code requires that access must be provided to all lots in the subdivision as a prerequisite to the orderly development of the surrounding area.

Article 6 of Division 2 of this Code permits local agencies to establish reimbursement agreements for improvements benefiting other areas. This includes Bridge and Major Thoroughfare Construction Fee Districts.

B. Streets and Highways Code

The California Streets and Highways Code consists of all statutes enacted by the legislature relating to public ways and all appurtenances thereto. This Code contains 21 divisions on subjects such as state highways, county roads, city streets, pedestrian malls, street lighting, planting or landscaping, funding, etc. It establishes authorities and responsibilities of state and local agencies in the design, construction and maintenance of public ways.

1. Division 1 - General Provisions

This division contains basic definitions that apply throughout this Code and the County Code. This division also defines the powers of County Board of Supervisors and County Roads and Highways.

2. Division 12 - The Municipal Improvement Act of 1913

This division contains the procedures in which a local agency can establish an improvement (Assessment) district to tax local property owners to pay for desired improvements.

C. Civil Code

Section 831, "Boundaries by Ways" of the California Civil Code notes that the adjacent property owner owns the land to the center of the public way unless otherwise noted.

D. Code of Regulations

Title 21 of the California Code of Regulations details all the regulations pertaining to public works.

1. Chapter 2, "Department of Transportation" of this Title 21 details all the regulations required for transportation construction that has been issued by Caltrans. There are ten subchapters in this document. Of interest to the land development field are Subchapters 6, "Guidelines for Traffic Control Devices on State Highways Near Schools," 10 "Bicycle Lane Accounts" and 13 "Grade Separation Projects".

2. Chapter 3, "Building, Transportation and Housing Agency" of the same title contains regulations regarding transportation and housing and defines the responsibilities of local agencies in developing public transportation systems.

E. Caltrans Standard Plans

Standard Plans issued by Caltrans should be used on all Federal Aid Secondary and Federal Aid Secondary Urban Extension (F.A.S.) Projects and may be used on other projects where the particular items are not covered by standards noted elsewhere in this manual. (See Item VI on Page 58-10.)

IV. County Codes

There are five County Code Titles that affect roads and highways design within a subdivision. The following is a summary of the County Codes on this subject:

A. Title 15 - "Vehicles and Traffic Code"

This title contains the requirements regarding permits and other requirements that are permitted by the State Code. Of interest to the land development process are the following chapters:

1. Division 1 - "Traffic Code"

a. Chapter 15.16 - "Highway Safety Commission"

The Safety Commission (revised name) comments and investigates whenever requested on all requirements or supporting data regarding traffic control and reports to the Board of Supervisors the results of its investigation. It makes recommendations as to actions to be taken regarding traffic control.

b. Chapter 15.20 - "Traffic Signals and Signs"

This chapter contains requirements regarding the placement of traffic signs and signals. It permits the Board of Supervisors to establish standards as to quality and location.

c. Chapter 15.24 - "Private Roads Open for Public Use"

This chapter notes the requirements of the California Vehicle Code regarding private roads and designates private roads open to the public for general commercial subdivisions. It also designates specific private roads that are open to public use not within specific types of subdivisions. (All of these roads are on Santa Catalina Island.)

d. Chapter 15.32 - "Speed Limits"

This chapter presents requirements regarding the placement of signs reducing speed limits.

e. Chapter 15.36 - "Boulevard Stops"

This chapter defines under what conditions boulevard stops are and are not required.

f. Chapter 15.48 - "Weight Limits"

This chapter establishes general and specific weight limits on streets within the Los Angeles County. Specific streets are listed in which the weight limits have been reduced for that type of street. This chapter also establishes street sign requirements regarding posting of weight limits.

g. Chapter 15.52 - "Cross Walks and Bicycle Lanes"

This chapter permits the Road Commissioner to require street marking of cross walks and bicycle lanes when the Board of Supervisors feel that they are needed. This chapter also contains sign requirements noting these items.

h. Chapter 15.68 - "Trespass by Motor Vehicle"

Section 15.68.01 defines a private street as utilized throughout the County Code.

i. Chapter 15.76 - "Miscellaneous Regulations"

Section 15.76.010 defines requirements for one-way highways. Section 15.76.170 defines when flag men are required at construction and maintenance areas. It also defines the training required for flag men.

2. Division 2 - "Miscellaneous Traffic Regulations"

a. Chapter 15.92 - "Roads Under Construction"

This chapter presents regulations regarding the closing of roads for construction purposes.

B. Title 16 - "Highways Code"

Title 16 of the County Code (Highways) contains regulations regarding the use of highways outside of normal traffic regulations. This title also contains requirements regarding house numbering. The title is divided up into ten divisions. The divisions that are of interest to those in the land development process are as follows:

Division	Subject
1	Highway Permits
2	Undergrounding of Utilities
3	Franchises
3a	Pipeline Franchises
4	Cable Television Provisions
5	Miscellaneous Provisions

C. Title 21 - "Subdivision Code"

The Subdivision Code contains many regulations affecting highway and street design within a subdivision. Specific requirements are located as follows:

1. Chapter 21.24 - "Design Standards"

a. Part 1 - Chapter 21.24 "Access"

This chapter presents the requirements for providing access to each lot within a subdivision. It also defines conditions under which a highway adjacent to a subdivision has limited or restricted access requirements to adjacent lots in which other access must be provided.

b. Part 2 - Chapter 21.24 "Highways"

This part of Chapter 21.24 recognizes the County Highway Plan and requires that all highways within the subdivision conform to that plan. It defines minimum widths of all highways and their right-of-way within the highway plan system.

c. Part 3 - Chapter 21.24 "Local Streets and Ways"

This part of Chapter 21.24 defines the right of way required for various local streets and ways that are part of a subdivision. It also includes future streets and alleys and private streets within mobile home subdivisions, pedestrian ways, fire fighting access easements, etc.

2. Chapter 21.28 - "Dedications"

   a. Section 21.28.060 - "Private Streets." This section contains the requirements for private streets within a subdivision.

   b. Section 21.28.070 - "Streets Serving Minor Land Divisions - 2 1/4 Acre Minimum Lot Size."

      This Section defines reduced minimum standards for streets within minor land divisions with large lots.

   c. Section 21.28.080 - "Minor Land Division and Parcel Map Requirements."

      This Section states that dedications or offers of dedications of real property for streets, highways and other public ways, etc. may be required for a minor land division or a parcel map.

3. Chapter 21.32 - "Improvements"

   a. Section 21.32.010 - "Requirements Generally."

      This section presents the general requirements for improvements within a subdivision.

   b. Section 21.32.070 - "Road Improvements."

      This section defines road improvement requirements including drainage structures incidental thereto and including two-foot wide cement concrete gutters.

   c. Section 21.32.080 - "Street Improvements for 2 1/4 Acre Minimum Lot Size - Alternate Procedure."

      This section allows an alternate procedure for establishing roads within a subdivision with large lots in excess of 2 1/4 acres.

   d. Section 21.32.090 - "Paving for Access Strips."

      This section contains provisions allowing the local agency to require paving of access strips for flag lots. Minimum pavement and right-of-way widths are presented.

   e. Section 21.32.140 - "Street Lighting - Required."

      This section denotes where street lighting is required.

   f. Section 21.32.150 - "Street Lighting - Not Required."

      This section presents conditions in which street lights may be waived.

g. Section 21.32.160 - "Street Tree Planting"

This section states the conditions under which street tree planting is required.

h. Section 21.32.170 - "Planting Strips"

This section notes that the Director of Parks and Recreation shall advice subdividers and their successors in interest in the selection and care of trees or shrubs to be planted in any required planting strip reservation on private property.

i. Section 21.32.180 - "Sidewalks - Required"

This section defines the conditions in which sidewalks are required.

j. Section 21.32.190 - "Sidewalks - Not Required"

This section notes the conditions in which sidewalks requirements may be waived.

k. Section 21.32.200 - "Bridge and Major Thoroughfare Construction Fees"

This section defines when a major thoroughfare and bridge may be established and how it is operated and fees collected.

4. Chapter 21.44 - "Final Maps and Parcel Maps"

a. Part 2 - "Mapping Specifications"

This part contains the items that must be shown on final subdivision maps to satisfy Code requirements and conditions of approval. Affecting road design are the following sections:

1/ Section 21.44.220 - "Highway and Street Names" presents the requirements in which the highway and street names must be established and shown on subdivision maps.

2/ Section 21.44.230 - "Highway Widths and Center Lines" requires showing highway widths and center line locations within a subdivision on the final subdivision map along with presenting the required dimensions.

D. Title 22 - "Planning and Zoning Code"

The primary purpose of the Planning and Zoning Code is to provide consistent development throughout the County areas under the jurisdiction of the Board of Supervisors. Highways and street design is a very important part of the planning process. The following chapters contain provisions that influence the highway and street designs.

1. Chapter 22.08 - "Definitions"

   This chapter contains many definitions which are used in this title and also other titles within the County Code.

2. Chapter 22.16 - "Zoned Districts and Maps"

   Part 1 - Chapter 22.16 "General Regulations"

   Section 22.16.020 "Highways - Zone Boundary Interpretation and Parking Restrictions" of this Part 1 contains conditions in which access and parking on a highway can be limited.

3. Chapter 22.48 "Yards, Highway Lines and Highways."

   a. Part 2-"Yards"

      Section 22.48.115 requires a supplemental yard eight feet wide be established in all zones and contiguous to the highway lines of limited secondary highway; any other yard requirements established in Chapter 22.20 through 22.40 of this title shall be in addition to this requirement.

   b. Part 3 - "Highway Lines"

      This part of Chapter 22.48 refers to County Highways which are exempt from the standard right of way widths as required by the Highway Plan. Also presented are Corner Cut offs at intersections. References are made to access requirements discussed in Item C.1.a on Page 58-6.

   c. Part 4 - "Road Dedication and Improvement Requirements"

      Section 22.48.220 lists the types of structures that are exempted from road dedication and improvement requirements.

      Section 22.48.230 requires that every developed lot or parcel have at least one-half of the right-of-way of every alley, street or highway that abutes on the property.

      Section 22.48.235 requires that before occupancy of a building in a Bridge and Major Thoroughfare Construction Fee District, a required fee must be paid. It refers back to Section 21.32.200 of Title 21. (Item C.3.k. on Page 58-8 of this Manual.)

      Section 22.48.250 requires that before use of a structure, all required road improvements must have been completed.

      Section 22.48.280 exempts existing buildings and alterations or additions that do not exceed one-half the value of all existing buildings or structures on the lot or parcel.

Section 22.48.290 permits the Director of Planning to grant modifications to the standards in this chapter under specific circumstances.

Section 22.48.300 permits the granting of conditional use permits under circumstances or a variance under unusual circumstances.

It refers back to Section 21.32.200 of Title 21. (Item C.3.k on Page 58-7 of this manual.)

4. Chapter 22.52 "General Regulations"

Part II - "Vehicle Parking Space"

Section 22.52.1030 "Width, Paving and Slope of Driveways" contains requirements for the paving of driveways and is used as minimum standards for fire access roads.

5. Chapter 22.56 - "Conditional Use Permits, Variances, Non-Conforming Uses, Temporary Uses and Directors Review."

a. Part 1 - Chapter 22.56 - "Conditional Use Permits."

Section 22.56.100 - "Permit - Additional Conditions Imposed When", permits the Hearing Officer to set special conditions for granting a conditional use permit which includes street and highway dedications and improvements, including sidewalks, curbs and gutters.

b. Part 2 - Chapter 22.56 - "Variances."

Section 22.56.340 - "Imposition of Additional Conditions Authorized When", refers back to the requirements of Section 22.56.100 discussed in the previous item when imposing additional requirements on variances.

c. Part 16 - Chapter 22.56 - "Oak Tree Permits"

This part also applies to any road construction whether or not it is part of a subdivision or not. See Chapter 53 of this Manual regarding Oak Tree Permit requirements.

E. Title 32 - "Fire Code"

Section 10.207 of Title 32 of the County Code (Fire Code) contains requirements which sets fire access and water flow requirements which are to be administered by the Forester and Fire Warden.

V. Highway Plan

The highway plan is part of the County General Plan. This plan is being continually updated by the Board of Supervisors and one must consult the Planning Division for the latest copy of the plan. See Chapter 50 regarding the purchase of copies of the published plan.

VI. Department Policies

Since all roads discussed in this manual will become property of the County and will be maintained by the Department, the Department has the right to require uniform design standards to reduce future maintenance costs.

All roads are to be constructed to the requirements of the "Standard Specifications for Public Works Construction." It is also Department policy to utilize as often as practical the "Standard Plans for Public Works Construction." However, these documents do not completely meet the requirements for roads. The Department's "Highway Design Manual" and Caltrans' Standards (see Item III.D on Page 58-4) should be utilized for those items not covered in the above publications. This procedure manual contains the current preferred design policies and should be utilized for the primary guide for designing roads.

There are still many old standard drawings in use because no other document contains standard plans that meet our needs. This manual contains a listing in Chapter 44 of those standard plans that are still required and/or acceptable to the Department. Standard plans issued by this Department and not noted in this manual should not be used unless prior approval is obtained from the Department.

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CHAPTER 59

SEWERS AND WASTE MANAGEMENT

Most sewer design procedures as presented in Chapters 23, 24, 46 and 47 of this Manual have been established by the County based on past experience. The legal references presented in Chapter 55 "Drainage Systems" also applies to sewers where applicable. Waste Management is currently a developing field because of its affect on the environment. New statutes and regulations are being added to the Codes constantly. This Chapter attempts to present the currently known statutes as they affect the Land Development process. The following are the rules of the various organizations and their codes and regulations that affect the design of sewer systems, private disposal systems, and waste management that are not covered in Chapter 55 of this Manual:

I. Federal Government

The Federal Government through the Environmental Protection Agency and the Environmental Protection Act and the Clean Water Act are concerned primarily with the quality of the water that is returned to its natural drainage and/or allowed to percolate into the ground water table. Private Waste Disposal Systems can come under the scrutiny of the Federal Government if it can be shown that they are the source of pollution. The Federal Government does get involved with sewers and sewage treatment plants under the Clean Water Act where construction subsidies are provided by the Federal Government.

II. State Codes

A. Government Code

The Government Code has only two Titles that cover Sewers and Waste Management They are as follows:

1. Title 7 - Planning and Land Use Division 2, "Subdivisions" (Subdivision Map Act), Chapter 4 "Requirements", Article 6, "Reimbursements" (Section 66485) permits local agencies to impose fees for off-site improvements and to enter into agreements with subdividers to construct improvements designed to provide services to adjacent properties subject to future development. This permits reimbursement agreements and formation of reimbursement districts for sewers.

2. Title 7.3 - Solid Waste Management, Resource Recovery and Recycling

Chapter 1 "General Provisions" beginning with Section 66700 defines land use requirements and the obligations of local agencies in this field.

Chapter 2 "Solid Waste Management and Resource Recovery Policy" beginning with Section 66770 dictates to local agencies specific goals. Sections 66780.9 and 66780.10 contain provisions directed to the Los Angeles County.

Chapter 3 "Enforcement Program" beginning with Section 66950 requires each County to designate an enforcement agency. The duties of this enforcement agency is to enforce the provisions of this Title and to provide information and reports to the Board of Supervisors and others.

B. Health and Safety Code

The California Health and Safety Code contains most of the requirements regarding the protection of public health through the use of sanitary sewers and control of hazardous wastes and materials. The following can apply to the land development process:

1. Division 5 - Sanitation

Part 3 "Community Facilities" is devoted to the construction and maintenance of sewers. The State Codes generally are permissive in that they delegate the responsibility to local authorities to determine the need for and the financing of waste treatment facilities and sewer collection systems. The following is a brief summary the applicable 3:

a. Chapter 1 - Community Facilities Law of 1911

This chapter beginning with Section 4700 permits governing bodies of any city to provide sewerage improvements including their financing within their cities.

b. Chapter 3 - County Sanitation Districts

This chapter beginning with Section 4700 allows the Board of Supervisors of any County to establish County Sanitation Districts. The Sanitation Districts may also include jointly, sewer maintenance districts. Basically, most sanitation districts provide trunk sewer lines and sewage treatment plants. Several sanitation districts may jointly establish a treatment facility. This is what has occurred in the Los Angeles County.

c. Chapter 4 - Sewer Maintenance Districts

While the State Code does not specify the duties of sewer maintenance districts, it is implied that they are formed to maintain local collector sewers, pumping stations and treatment plants that are not maintained by a sanitation district or a sanitary district. These districts are usually formed under the requirements of this Code beginning with Section 4860 by the Board of Supervisors of any county to maintain sewers that are not currently being maintained by any other public body.

d. Chapter 6 - General Provisions with Respect to Sewers

This Chapter beginning with Section 5400 contains requirements for locating sanitary projects. Article 1 "Rights of Way for Sewers and Drainage" notes that the Board of Supervisors can abandon easements for these purposes when they are no longer required for public use.
Other articles contain statutes that govern pollution by individuals. This includes construction site pollution.

2. Division 20 - "Miscellaneous Health and Safety Provisions"

Chapter 6.5 "Hazardous Waste Control" beginning with Sections 25100 is devoted to defining hazardous waste and how it should be controlled. The chapter provides for State and local agencies the authority establish procedures for controlling this waste and it also allows the California Department of Health Services to define specific hazardous and toxic wastes.

C. Streets and Highways Code

Division 12 "The Municipal Improvement Act of 1913" Beginning with Section 10000 defines the procedures for a local agency to establish a capital improvement district, set assessment amounts and construct improvements. The Department has used this Act to construct needed sewers, landslide stabilization facilities, water systems, etc. Essentially, the Planning Division initiates all projects covered by this Act. Planning and Design divisions are responsible for processing sewer projects authorized under this act.

D. Code of Regulations

The following Titles are of interest to processing of land development projects:

1. Title 22 - "Environmental Health"

Chapter 30 "Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes" contains regulations established by the Department of Health Services and imposed on local agencies to enforce. The Department also provides inspection services to enforce the Codes.

2. Title 26 - "Toxics"

The entire Title 26 "Toxics" affects land development projects. This title contains regulations on this subject issued by all of the State Departments, Commissions and Agencies.

III. County Code

The Los Angeles County Code provides detailed requirements for the design, review and construction of sanitary sewers within the Los Angeles County that will be maintained by either a sewer maintenance district or a sanitation district.

A. Title 20 - "Utilities"

1. Division 1 - Water

This Division is discussed in Chapter 60 of this manual.

2. Division 2 - Sanitary Sewers and Industrial Waste

This Division contains the basic requirements for construction of sanitary sewers. Of interest to the developer are the following chapters:

a. Chapter 20.20 - Definitions

This chapter provides definitions of words used throughout the code and this manual.

b. Chapter 20.24 - General Provisions

This chapter describes the responsibilities for administration and enforcement of this Division 2 of the County Code.

c. Chapter 20.28 - Administration, Permits and Fees

This chapter contains the fees charged for design and construction of sanitary sewers under the jurisdiction of the Los Angeles County. This chapter also defines to whom these fees are paid.

d. Chapter 20.32 - Sanitary Sewers

This chapter contains five parts: "Sewer Construction Permit", "Fees and Deposits", "Design Standards", "Inspection" and "Maintenance".

Part 1, "Sewer Construction Permit", contains requirements for sewer plan check, tapping into existing facilities, requirements for pumping and treatment plants, permit application requirements, etc.

Part 2, "Fees and Deposits", contains requirements and fee and deposit amounts for required services.

Part 3, "Design Standards",contains basic requirements for sewer design. More detailed requirements come from Department policies presented in Item IV.

Part 4, "Inspection", contains material and construction procedure requirements. It also contains provisions permitting inspection by County inspectors and under what conditions can the sewers be put into operation.

Part 5, "Maintenance", is devoted to individuals utilizing the sewer manholes to dump effluent from private waste disposal systems and the cleaning up afterwards. It also contains a section requiring reimbursement to the sewer maintenance districts for repairs and maintenance following violations of this code.

e. Chapter 20.36 - "Industrial Waste"

This chapter contains the requirements for handling industrial waste and its discharge to public sewers.

3. Division 3 - Sewer Maintenance Districts

This Division defines the requirements of the operations of the sewer maintenance districts within the Los Angeles County. It also contains fees and charges to operate these sewer maintenance districts.

4. Division 4 - Solid Waste

   This Division regulates the handling and disposal of solid wastes.

5. Division 4a - Garbage Disposal Districts

   This Division regulates the collection of garbage from County administrated areas and establishes fees for this service.

6. Division 5 - Flood Control District Properties and Facilities

   This Division contains provisions regarding the protection of Flood Control District properties and facilities.

7. Division 6 - County Service Areas

   This Division contains the regulation for operating county service areas required for providing essential services and establishing fees to cover the cost of these services as permitted by State Code. State Codes contain the regulation basis for establishing Drainage Benefit Assessment Areas along with Library Districts, Local Park Maintenance Districts, etc.

B. Title 21 - Subdivision Code

The Subdivision Code contains the requirements for dividing land including the requirements for improvements.

1. Chapter 21.28 - Dedications Section 21.28.090 requires easements for all sewers not in public streets.

2. Chapter 21.32 - Improvements

   This Chapter requires that all subdivisions contain sewers. Sewers can be waived in accordance with Section 21.32.060 when the lot is in excess of five acres.

   In addition, Section 21.32.120 requires that sewers may be required to contain supplemental size, capacity, length, depth or number, or be altered in location, for the benefit of property not within the division of land in order to facilitate the orderly development of the surrounding area in a manner consistent with the policies of the general plan. As permitted by the State Code, the Board of Supervisors shall enter into an agreement to provide for the payment of reimbursement to the subdivider and the collection of charges from the property benefitted from the improvements.

IV. Department Policies

Since most sewers discussed in this manual will become property of the County and will be maintained by the Sewer Maintenance Districts, the Department has the right to require uniform design standards to reduce future maintenance costs.

The County Code requires that the Sewers be constructed to the requirements of the "Standard Specifications for Public Works Construction". It is Department policy to utilize as often as practical the "Standard Plans for Public Works Construction". However, these documents do

not completely meet the requirements for local sewers. The "Special Provisions for the Construction of Private Contract Sanitary Sewers" is designed to supplement the first document. There are still many old standard drawings in use because the second document does not contain standard plans that meet our needs. This manual contains a listing in Chapter 47 of this Manual of those standard plans that are acceptable and/or required by the Department. Standard plans issued by this Department and not noted in this manual should not be used unless prior approval is obtained from the Department.

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CHAPTER 60

WATER CODES

Within the field of Water Code Enforcement, Land Development Division is responsible for enforcing water supply requirements. Either the County or State Health Department is responsible for enforcing the quality of water supplied for domestic use. The Fire Department or Forester and Fire Warden sets fire flow requirements and fire hydrant locations. This responsibility consists of enforcing Federal, State and County code provisions designed to promote and achieve a reasonable minimum level of fire protection performance for the water supply facilities that are constructed, replaced, extended or rehabilitated to serve new subdivisions and residential, commercial and industrial improvements in the unincorporated areas of the County of Los Angeles and cities where the County Engineer serves as city engineer. Title 20, "Utilities" Division 1 "Water," Section 20.04.020 of the Los Angeles County Code defines the County Engineer's enforcement responsibilities. (See Item III beginning on Page 60-6.) The following codes and standards are applicable to the land development process:

I. Federal level

The influence of the federal level for water supply regulation is quite limited. It is as follows:

A. Federal Government

Federal government Codes and Regulations concentrate primary and setting water quality standards. Water quality regulation has been assigned to the Environmental Protection Agency. This agency sets most of these standards and is responsible for forcing States and their local agencies to enforce them. Most of the research for water quality is performed at the Federal level.

There have been many grants from the Federal Government to state and local agencies for the improvement of water supply in those areas where there is in existence substandard water quality and supply and an insufficient economic base to construct the needed services.

B. American Water Works Association (AWWA)

American Water Work Association (AWWA) was organized to promote safe domestic water. AWWA is active in providing research, education and defining standards for compliance. Most of the standards established by the AWWA are mandatory through local and state codes. These standards are codified to apply to Los Angeles County and State Codes as presented Chapter 48 of this Manual. These standards are published in a Manual and can be obtained from AWWA. (Refer to Chapter 50 regarding obtaining a copy of these standards.)

II. State level

The state of California has many code provisions and state agencies who regulate the supply of water. This includes the quantity of water and the quality of water as follows:

A. Applicable State Codes

There are several codes that regulate distribution of water. Generally all water utilities and municipal water districts are regulated under the Public Utilities Code. Other Code provisions also regulate water distribution. The following Code provisions regulate water distribution:

1. Health and Safety Code

This Health and Safety Code is primarily concerned with water quality. This Code has been amended to no longer apply to water supply matters except for financing water utility services. Division 5 "Sanitation" beginning with Section 3700 contains statutes that apply to handling liquid and solid wastes including the formation of districts to

handle them. Part 1 "Sanitary Provisions" contains statutes regulating items that come in contact with the public including water, drinking cups, towels, public rest rooms, etc. Chapter 7, "Water and Water Systems", beginning with Section 4010 is known as the "California Safe Drinking Water Act." The following Sections are of interest:

a. Article 1 - Public Water Systems

1/ Legislative Findings and Declarations

Section 4010 of this Code sets policies to be enforced by all State and Local Agencies. It is intended that drinking water quality meet or exceed Federal Drinking Water Standards and that there be a regulatory program within the State Department of Health Services to insure this.

2/ Water System Definitions

Section 4010.1 contains definitions used within this Chapter. These definitions are often used in reports, local ordinances, and State regulations.

3/ Non-Domestic Uses of Water

Sections 4010.3, 4010.4, and 4010.5 contains exemptions from this Chapter such as water for agricultural and industrial use.

4/ Enforcement by Local Health Officers

Section 4010.8 states that for water systems with less than 200 service connections, except as provided in Section 4010.9, the local health officer shall be responsible for the enforcement of this chapter. For the purposes of this chapter, unless the context otherwise requires, and whenever enforcement activities involve water systems with less than 200 service connections, the local health officer shall act for the department, except that variances and exemptions may only be granted or revoked by the local health officer following the procedures as provided in Sections 4021 and 4022 subject to the approval of the department.

Fees for the permits may be prescribed by the local governing body in accordance with Section 510 to pay the reasonable expenses of the local health officer in carrying out the provisions of this chapter and regulations adopted thereunder.

Section 4010.9 states that the State Department of Health Services will enforce the provisions of this Chapter to all public water systems in any county which does not have a local health officer, or contracts with the department for environmental health services pursuant to Section 1157 and elects not to enforce this chapter.

The department shall absorb the costs of the enforcement.

5/ Small Utility Contact or Intermediary

Section 4010.10 provides for any public water system subject to the provisions of Section 4010.9, with not less than five connections, which is owned by all or a number of users who are not organized into a single legal entity, shall designate one of such users or other persons to be the principle contact or intermediary with the county health officer, or in

those counties which do not have a local health officer carrying out the provisions of this chapter pursuant to Section 4010.9, with the Department of Health Services. The person designated pursuant to this section shall coordinate those actions necessary to achieve compliance with the provisions of this chapter and the orders, rules, and regulations adopted pursuant thereto.

b. Article 2 - Permits

This Article beginning with Section 4011 contains sections pertaining to the issuance of public health permits to water purveyors regulated by the State.

c. Article 3 - Drinking Water Program

This Article beginning with Section 4021 sets water quality criteria to be established by the Department.

d. Article 4 - Exemptions and Variances

This Article beginning with Section 4027 contains Sections that permit exemptions and variations from the State Regulations

e. Article 5 - Public Notification

This Article beginning with Section 4028 contains provisions for notifying the departments of Health Service and the public of water quality. Annual reports are required and when the water quality drops below minimum standards.

f. Article 6 - Violations

This Article beginning with Section 4031 details violations of this Chapter and presents the powers of the Department of Health Services.

g. Article 7 - Remedies

This Article beginning with Section 4042 contains penalties for violations of this Chapter.

h. Article 8 - Judicial Review

This Article beginning with Section 4037 contains provisions for appealing rulings by the Department of Health Services.

i. Article 9 - Crimes and Penalties

This Article beginning with Section 4037.5 contains Sections that define Civil and Criminal Penalties and what constitutes a misdemeanor and a felony. Each Section spells out the punishment.

2. Public Utilities Code

The following Public Utilities Code provisions effect the Land Development process:

a. Water Utility Immunity

Section 774 states that "no water corporation which has undertaken to provide fire protection service, nor any employee of such corporation acting in the

course and scope of his employment, shall be liable for any death or injury to a person or damage to or loss of property resulting from a failure to provide or maintain an adequate water supply or pressure, or any equipment or other fire protection facility or service: provided that such immunity from liability shall not exceed that of a public agency or any of its employees, as the case may be, under similar circumstances. Nothing in this section shall preclude the enforcement of any rule, regulation or order of the commission." This section gives the County the right to enforce certain water system features. The Commission has ruled that a local agency has the right to enforce fire protection standards.

b. Water Purveyor Regulation

There are several types of water providers that is covered in this Division 1, Part 2 of the Public Utility Code.

1/ Water Companies as Public Utilities

Section 2701 states that "Any person, firm or corporation, their leases, trustees, receiver or trustees appointed by any court whatsoever, owning, controlling, operating, or managing any water system within this state, who sells, leases, rents or delivers water to any person, firm, corporation, municipality or any political subdivision of the State whether under contract or otherwise, is a public utility, and is subject to the provisions of Part 1 of Division 1 (of the Public Utilities Code) and to the jurisdiction, control and regulation of the commission, except as otherwise provided in this Chapter". Based on this Section a water utility can come in many forms.

2/ Exception to being a Water Utility

Section 2704 states "Any owner of a water supply not otherwise dedicated to public use and primarily used for domestic or industrial purposes or for the irrigation of his lands, who (a) sells or deliver the surplus of such water for domestic or school district purposes or for the irrigation of adjoining lands or (b) in an emergency water shortage sells or delivers water from such supply to others for limited" period not to exceed one irrigation season, or (c) sells or delivers a portion of such water supply as a matter of accommodation to neighbors to whom no other supply of water for domestic or irrigation purposes is equally available, is not subject to the jurisdiction, control and regulation of the commission. This section can be interpreted as stating that a private owner obtaining water for his own uses is not a Public utility and subject to the jurisdiction of the Public Utility Commission.

3/ Corporations as Mutual Water Companies

Section 2705 states that a mutual water company, "a corporation or association which is organized for the purpose of delivering water to its stock holders and members at cost," is not subject to the regulation or control of the Public utility commission. A mutual water company may

(a) deliver water at cost to any leases of it's stock or shares or other forms of membership.

(b) deliver water at cost to any land leased by a stock holder or member of such mutual water Company.

(c) in a bona fide water emergency, but for no longer than the existence of such emergency, may deliver water at cost to any person owning or leasing real property located within or adjacent to the service area of the mutual water company.

(d) deliver water pursuant to any contract for water service prior to October 1, 1961, (1) in settlement of litigation involving disputed water rights or any judgment in such litigation or (2) in consideration of the conveyance of a well, water right or easement for water distribution purposes.

The Public Utilities Commission does has the right to inspect the records of the mutual water company that enters into any lease. Section 2706 also noted that any body that supplies water to a water conservation district is not considered a water utility under the Authority of the Public Utilities Commission.

Section 2709 notes that the Commission may require any water corporation to file with the commission a statement in writing defining and describing the Lands and territory be supplied by the corporation with water.

4/ Limitation on Service to New Costumers

Section 2708 states that the Public Utilities Commission after determining that a water utility has reached the limit of its capacity to supply water, can prohibit the water utility from serving new customers.

c. Fire Protection Service Charge

Section 2713 states that no water corporation shall charge for water used for fire protection services. However, the cost for providing the service can be part of the customer water rates. (Note: Fire hydrants located on Private property for the protection of that property are not subject to this Code provision. The owner(s) must pay for water used for fire protection.)

d. Definition of a Mutual Water Company

Section 2725 states that a mutual water company means any private corporation or association organized for the purposes of delivering water to its stockholders and members at cost.

e. Utilities Owned by Municipal Corporations

Division Five of this Code (beginning with Section 10001) covers the special rules regarding water utility owned by municipal corporations. Such utilities are covered under a completed set of rules that vary from that of other privately owned public utilities.

f. Municipal Utility Districts

Division Six of this Code (beginning with Section 11501) covers rules and regulations for establishing and operating a municipal utility district.

Section 11531 states that municipal utility districts may be created under the power provided in this Division. Section 11561 notes that any public agency under certain conditions can purpose the formation of a utility district. However, a later article states that formation can be by resolution of a legislative body, petition of the electorate before the legislative body or election

by the electorate. Other Chapters describe how the district operates in fulfilling its mission.

3. Water Code

As previously noted in Chapter 55 of this Manual, the State has primary control over the distribution of water. This includes prorationing or rationing the water supply to the various providers. In general, the State Regulatory Agencies recognize that the Code gives first preference of water to municipalities and to agency or district utilities.

B. State Enforcement Actions

There are several agencies within State Government that are responsible for enforcing State Codes as follows:

1. Public Utilities Commission

The Public Utilities Commission is responsible for regulating all privately owned utilities in the State of California. This includes defining operations and setting utility rates or charges to customers. The utilities must justify their rate requests to this Commission. Utilities are guaranteed to make a profit. Division 1 of Title 20 of the California Code of Regulations contain procedures for a Public Utility Commission hearing.

2. Department of Health Services

The Department of Health Services has been charged by the State Legislature in the Public Health Code to oversee the quality of water and setting minimum standards for potable water.

3. Other State Agencies

There are several regional water boards that regulate quality and quantity of available water supply. These boards are noted through out this Manual, such as the Los Angeles and Lahontan Regional Water Quality Control Boards and Regional Water Resources Board.

III. County Enforcement

Los Angeles County is one of few counties in the state that has adopted a water code to ensure adequate water supply to all citizens within Los Angeles County jurisdiction. Enforcement of this code has been assigned to Land Development Division of Department of Public Works.

A. County Water Code

The County Water Code is presented in Division 1, of Title 20 "Utilities" of Los Angeles County Code. Of interest to land development are the following provisions: (See Chapter 50 regarding obtaining a copy.)

1. Chapter 20.04 - General Provisions

a. Purpose of the County Water Code

The purpose of this Code is to promote and obtain a reasonable minimum level of fire protection performance for water supply facilities constructed, replaced, extended or rehabilitated to serve new subdivisions and residential, commercial, and industrial improvements in the unincorporated area of the County of Los Angeles (Section 20.04.020.). It is the Department's policy to require in contracts with Cities in which the Department serves as City Engineer to include

this provision in the City's ordinances. It should be noted that the state water code gives local agencies the right to set standards for fire protection provided by water utilities.

b. These Provisions are Not Exclusive

Section 20.04.030 states that the provisions of the Water Code (Division 1) are not intended to augment, supplant, or parallel any provisions of the Health and Safety Code of the State of California or order of the Public Utilities Commission pertaining to water supply except as to fire protection.

c. Educational Work for Development of Standards

Sections 20.04.070 and 20.04.300 combined states that the County Engineer may perform educational work for development of standards as they exist in this Division 1 (County Water Code), and may cooperate with civic organizations, industries, water utilities and public agencies whenever, in the opinion of the engineer, such work and cooperation is essential to the development of water utility standards or procedures.

d. Enforcement By County Engineer and Joint Action Authority of Other Agencies.

Sections 20.04.130 and 20.04.300 combined imposes upon the County engineer full responsibility for enforcing this Code. Section 20.04.080 states that the engineer may confer and negotiate with officials of any public agency and may recommend to the Board of Supervisors a contract by which the County and one or more public agencies may jointly exercise any powers pertained to the enforcement of the water code.

e. Notices of Water Code Amendments

Section 20.04.090 requires that Amendments to the Water code must be sent in writing within ten days prior to adoption of any ordinance to all registered Water Purveyors or Water Purveyors known by the County Engineer.

f. Records Kept by Water Utilities

Section 20.04.110 requires that the water utilities must keep a copy of the current effective water utility certificates of registration or authorizations. The County Engineer shall keep on record current copies of water utility certificates of registration and water utility authorizations along with all reports, plans and specifications. Said records shall be made available during working hours.

g. Inspector Identifications

Section 20.04.140 requires that Inspectors will be provided with suitable means of identification when inspecting any work at the project site required by Division 1 of Title 20 of the Los Angeles County Code.

2. Chapter 20.08 - Registration, Authorization and Service

Chapter 20.08 of this Code contains requirements and fees for registration of utilities and the plan check and inspection of new and rehabilitated water distribution systems.

a. Certificate of Registration

Section 20.08.010 "Construction of System - Certificate of registration requirements" requires that all water utilities be registered with the County

Engineer and that a certificate of registration be issued. This registration shall be renewed every five (5) years.

This Section requires that the County Engineer be notified in writing of any change of persons in responsible charge of the water utility within 30 days after the change.

This requirement will be checked especially when there is a new subdivision requiring service from the water utility or when the water utility must obtain an excavation permit from the road commissioner.

b. When Water Utility Authorization is Required

Section 20.08.020 requires that a person legally be required to comply with the Water Code (Division 1 of Title 20 of the County Code) and not having a water utility certificate of registration, shall not construct any portion of a water system without first having obtained a water utility authorization.

c. Procedure for Obtaining Water Utility Authorization

Section 20.08.030 defines the process for designing an application form, submitting plans and specification and processing completed applications. The County Engineer must obtain approvals from the Forester and Fire Warden, from the Road Commissioner, from the County Health Officer, and from any other County officer where required.

d. Registrations and Authorizations are not Transferable

Section 20.08.040 states that certificates and authorizations are not transferrable from one grantee to another grantee or from one location to another location.

e. Revocation Conditions and Procedures for Registrations and Authorizations

Section 20.08.050 states that any violations of this Water Code or in the event the water utility violates this Division 1 or the Water Utility fails to discharge its responsibility as promised, the Engineer may so advise the Water Appeals Board. Upon receipt of such advice the Water Appeals Board shall conduct a public hearing and notify the water utility. If from the evidence received at the hearing, the Water Appeals Board finds that the water utility has violated any provision of Division 1, it may revoke the water utility's certificate of registration or water utility authorization of such water utility.

f. Plan Checking

For new divisions of land, a plan checking requirement in Section 20.08.060 assigns the County engineer the responsibility for approving all new water supply improvements including water mains as meeting the requirements of this Code.

g. Fee Charged for Handling Registration and Authorizations

Section 20.08.060 requires that all plans and specifications for water system improvements must be submitted to the County Engineer. The fees and deposits along with the review procedures are presented in this Section. Subsection E details the content of the water system plans and specifications. Subsection F defines what constitutes water system improvements necessary to provide the required flow for the duration required by the Forester and Fire

Warden. These improvements may include construction of sources of water supply facilities, water distribution mains, pressure booster stations, water storage reservoirs and any other facilities. Subsection G gives the Forester and Fire Warden the right to require that fire hydrants be installed to meet the (fire) flow requirements established pursuant to Section 20.16.060. (See Item 4 below.)

h. Non-subdivision Water System Improvements

Section 20.08.061 requires that plans and specifications for all non-subdivision water system improvements be submitted to the County Engineer for review and approval. The fees in Section 20.08.060 shall apply to this section. (See Item g above.)

i. Agreements for Sites Where Water Service is Inadequate or Unavailable

Section 20.08.080 contains requirements for an agreement between the County and the developer for sites that have inadequate or unavailable water supply. This agreement includes installing a water tank and eventually connecting up to an adequate water supply system when one becomes reasonably available.

j. Fees for Registrations and Authorizations

Section 20.08.090 contains the fee to be charged by the County Engineer for processing a certificate of registration or a water utility authorization.

k. Grantee must Obtain Other Permits

Section 20.08.100 states that all grantee must also obtain other required permits as required by ordinance or statute.

3. Chapter 20-12 - Water Appeals Board

The Water Appeals Board as described in Chapter 27 of this Manual is authorized to operate under the provisions of Chapter 20.12. of this Code.

4. Chapter 20-16 - Design and Construction

A water supply system must be designed and constructed pursuant to the requirements in Chapter 20.16 of this Code. It must meet minimum standards established in this Chapter. Section 20.16.140 "Fire Hydrants - Size, type and location" requires that the Forester and Fire Warden establish the standards for the size and type of Fire Hydrants. The Forester and Fire Warden must provide the location of all Fire Hydrants to the designer.

Section 20.16.030 "Water flow - Total requirements designated" states that for metered service the total water flow shall be two times the sum of the minimum fire flow plus the maximum daily water flow requirements.

Section 20.16.200 authorizes the County engineer to establish and publish a utility manual containing minimum standards and materials necessary to design and construct a water supply system. This "Utility Manual" must be filed with the Board of Supervisors. This "Utility Manual" is incorporated into this Manual as Chapter 48.

B. Land Development Division Responsibility

Land Development Division has been given the responsibility to enforce all provisions of the Water Code and to update and maintain the "Utility Manual." These Code mandated duties

require the County Engineer to check for water supply availability and adequacy in undeveloped areas outside of existing water utility service area boundaries to conform with this Division 1 of Title 20 of the Los Angeles County Code. After determining water source adequacy, the County Engineer is required to authorize the formation of new water utilities to provide water service for new subdivisions.

The County Engineer is authorized to verify that existing water purveyors have adequate storage capacity, water sources to expand their systems to serve new developments in accordance with this Division 1. In order to perform these duties, the Department of Public Works must maintain a list containing the full information of all registered water purveyors and maps showing their service area boundaries.

Fire flow tests are usually performed to meet the standards established by the Forester and Fire Warden. These tests may be performed under the direction of the Fire Department, the water utility or the County Engineer.

The County Engineer has ultimate responsibility for approving all water distribution system plans and specifications.

CHAPTER 61

QUALIFICATIONS AND EXPERTISE REQUIRED FOR LAND DEVELOPMENT PROJECTS

DRAFT

This Chapter covers the minimum qualifications and desired expertise required for preparing and developing land development projects and the responsibility delegated by the State Codes to various parties. Successful land development projects require professionals with very special expertise from the following professions: Architecture, Civil Engineering, Engineering Geology, Geology, Geophysics, Geotechnical Engineering, Land Surveying, Landscape Architecture, Traffic Engineering, etc. This Chapter will consist of presenting code provisions that cover this subject.

I. General Qualifications for Performing Land Development Design

State and County Codes contain provisions requiring land development improvement to be performed by specific professionals as follows:

A. Regulating Professional Practice

1. Limitations of Local Codes

A local enforcement agency is limited to utilizing State Code provisions in making a determination on the qualifications of the individual performing the work. Section 460 of the Business and a Professions Code is very specific on that matter. This Section states that no City or County can prohibit a person authorized by one of the agencies of the Department of Consumer Affairs to engage in the practice of his/her profession. However, the city or county can establish a local business tax that can only be used to cover the cost to regulation.
The Courts have ruled that only the legislature and State Agencies through the Code of Regulations can limit the right to practice a profession.

An individual or government agency may set higher qualifications in selecting individuals to perform a service for them such designing or maintaining a government facility. The basic reason for establishing Titles is to designate and recognize those who have demonstrated expertise in a certains branch of a profession.

2. Disciplinary Action

Division 1.5, "Denial, Suspension and Revocation of Licenses" (beginning with Section 471) of the Business and Professions Code limits Boards to disciplinary actions against those whose registration was granted by the Board. The Boards have the power to request prosecutors to take action against those that are not registered under that Board. Chapter 3, "Suspension or Revocation of License" (beginning with Section 467), defines procedures that all Boards must follow in disciplinary nations.

B. Specific State Statutes

1. Business and Professions Code

The Business and Professions Code contain statutes regulating all registered professions in California. Also in this code are the powers and duties of the Department of Consumer Affairs and the many regulatory boards. In addition to the Sections discussed in Item A, Division 3, "Professions and Vocations Generally" is of interest to the Land Development Process As a supplement to the Statutes, Boards and Agencies are permitted establish regulations which have equal force of law to the statutes. Title 16 of the Code of Regulations supplement the Business and Professions Code. (See Item C.3 beginning on Page 61-16.) The following Chapters in Division 3 regulate professionals that perform land development work:

a. Chapter 3 - Architecture"

Chapter 3, "Architecture" (beginning with Section 5500) regulates the practice of architecture within this State. The following Sections within this Chapter are of interest:

1/ Professional Skills of an Architect

Section 5500.1 defines the professional skills and services of an architect. This is limited to planning of sites and the design in whole or part, of buildings, or groups of buildings and structures.

2/ Exemption of Structural Engineers

Section 5537.1 states that a structural engineer using that title under the provisions of Chapter 7 (beginning with Section 6700), insofar as he or she practices the profession for which he or she is registered, is exempt from the provisions of this chapter, except that a structural engineer may not use the title "architect", unless he or she hold a license.

3/ Application of Chapter to Contractors

Section 5537.2 prohibits a licensed contractor from practicing architectural tasks limited to be performed by licensed architects.

4/ Application of Chapter to Professional Engineers

Section 5537.4 makes the provisions applicable to Structural Engineers applicable to Professional Engineers as noted in Item 2/.

5/ Application of Chapter to Civil Engineers

Section 5537.5 makes the provisions applicable to Structural Engineers applicable to Civil Engineers as noted in Item 2/.

6/ Application of Chapter to Landscape Architects

Section 5537.6 states that a landscape architect registered under the provisions of Chapter 3.6 (biginning with Section 5615), insofar as he or she practices the profession for which he or she is registered, is exempt from the provisions of this Chapter except that a landscape architect may not use that title "architect", exclusive of the word "landscape".

7/ Application of Chapter to Land Surveyors

Section 5537.7 states that a land surveyor licensed under the provisions of Chapter 15 (beginning with Section 8700) of Division 3, insofar as he or she practices the profession for which he or she is licensed under Chapter 15 of Division 3, is exempt from the provisions of this Chapter, except that he or she may not use the title "architect".

b. Chapter 3.5 - Landscape Architecture

Chapter 3.5 "Landscape Architecture" (beginning with Section 5615 regulates the practice of landscape architecture within this State. The following Sections within this Chapter are of interest:

1/ Definition of Landscape Architecture

Section 5615 defines a person who practices landscape architecture within the meaning and intent of this article (4) is a person who performs professional services for the purpose of landscape preservation, development and enhancement, such as consultation, investigation, reconnaissance, research, planning, design, preparation of drawings, construction documents and specifications, and responsible construction observation. This includes preservation of esthetics values and the design of trail and walkway systems.

2/ Application to provisions relating to Architects, Engineers, Contractors, Land Surveyors and Gas and Electric Utilities.

Section 5644 states that this chapter does not affect those registered under Chapters 3, 7, and 9 of this Division relating to architects, civil engineers and contractors, respectively.

A land surveyor who holds the license to practice land surveying under the provisions of Chapter 15 is also exempt.

A gas or electric utility and its employees when they are providing landscape lighting need not be registered under this chapter.

c. Chapter 7 - Professional Engineers

Chapter 7 "Professional Engineers" (beginning with Section 6700) regulates the practice of professional engineering and its many branches. The following Sections within this Chapter are of interest:

1/ Definition of a Professional Engineer

Section 6701 states that a professional engineer refers to a person engaged in the professional practice of rendering service or creative work requiring education, training and experience in the engineering sciences and the application of special knowledge of the mathematical, physical and engineering sciences in such creative work as consultation, investigation, evaluation, planning or design of public or private utilities, structures, machines, processes, circuits, buildings, equipment or project, and supervision of construction for the purpose of securing compliance with specifications and design for any such work.

2/ Definition of a Civil Engineer

Section 6702 defines a "Civil Engineer" as a professional engineer in the branch of civil engineering and refers to one who practices or offers to practice civil engineering in any of its phases.

3/ Definition of Responsible Charge of Work

Section 6703 defines the phrase "responsible charge of work" as the independent control and direction by the use of initiative, skill, and independent judgment of the investigation, or design of professional engineering work or the direct engineering control of such projects. This definition excludes the concept of financial liability.

4/ Right to use title of Professional Engineer

Section 6704 states that no person shall practice civil, electrical, or mechanical engineering unless appropriately registered or specifically exempted from registration under this Chapter.

5/ Work Requiring Registration as Professional Engineer

Section 6730 requires any person, either in a public or private capacity, except as in this Chapter specifically excepted, who practices or offers to practice, civil engineering, electrical engineering or mechanical engineering, in any of its branches in this state, including any person employed by the State of California, or any city and county who practices engineering, shall submit evidence that he is qualified to practice, and shall be registered accordingly as a civil engineer, electrical engineer or mechanical engineer by the board.

6/ Registration requirements on the Public Sector

Section 6730.2 notes that the registration requirements which are imposed upon private sector professional engineers and engineering partnerships, firms, or corporation shall be imposed upon the state and any city, county, or city and county which shall adhere to these requirements. At least one registered engineer shall be designated the person in responsible charge of professional engineering work for each branch of professional engineering practiced in any department or agency of the state, city, county, or city and county.

Any one not registered, but in responsible charge, prior to January 1, 1985 is exempted.

7/ Definition of Civil Engineering

Section 6731 states that civil engineering embraces studies or activities in connection with fixed works for various listed projects.

This Section states that civil engineers registered prior to January 1, 1982 shall be authorized to practice all land surveying as defined in Chapter 15 (beginning with Section 8700.)

Section 6731.1 also defines the practice or offer to practice civil engineering. This includes establishing the location and elevations of a proposed fixed object, the configuration or the contours of the earth's surface.

Section 6731.2 states that any registered civil engineer may offer to practice, procure, and offer to procure land surveying work incidental to his or her civil engineering practice. All land surveying work must be performed under the direction of a registered person authorized to perform the work.

8/ Use of the title of Professional Engineer

Section 6732 states that only those registered with the following titles can use the term professional engineer and their registered titles: agricultural engineer, chemical engineer, civil engineer, control systems engineer, corrosion engineer, electrical engineer, fire protection engineer, industrial engineer, manufacturing engineer, mechanical engineer, metallurgical engineer, nuclear engineer, petroleum engineer, quality engineer, safety engineer or traffic engineer.

Section 6736.1 states the same thing regarding the title, Soil Engineer, soils engineer and geotechnical engineer.

9/ Preparation and Signature of Civil Engineering documents

Section 6735 states that all civil engineering plans, specifications and reports must be prepared by a registered civil engineer or by a subordinate under him or her direction and shall be signed by him or her to indicate his or her responsibility for

them. These documents shall bear the seal or stamp of the registrant and expiration date of the certificate or authority. If the final civil engineering plans, specifications or reports have multiple pages or sheets, the signature, seal or stamp and expiration date required above need only appear on the originals of the plans and on the original title sheet of the specifications and reports. It can be paraphrased that each sheet of the plans must be signed by the registered civil engineer. It should also be noted that a civil engineer can use his title authority such as geotechnical and structural engineer.

10/ Supervision of Construction Project by Engineer Signing documents

Section 6735.1 states that the civil engineer who signed the civil engineering plans, specifications, reports or documents relating to the fixed work project does not have a legal duty of responsibility to supervise the construction of engineering structures or fixed works. However, the client and the engineer can enter into an agreement for the engineer to provide construction inspection services.

11/ Liability of the Engineer signing plans or other documents

Section 6735.2 states that, notwithstanding Section 6735 (see Item 9), a registered civil engineer who signs civil engineering plans, specifications, reports, or documents shall not be responsible for damage caused by subsequent changes or uses, where the subsequent changes or uses, including changes or uses made by state or local governmental agencies, are not authorized or approved by the registered engineer who originally signed the plans, specifications, reports or documents, provided that the engineering service rendered by the civil engineer who signed the plans, specifications, reports or documents was not also approximate cause of the damage.

12/ Use of the Words "Certify" or "Certification"

Section 6735.5 states that the use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or land surveying constitutes an expression of professional opinion regarding these facts or findings which are the subject of certification, and does not constitute a warranty or guarantee, either expressed or implied.

13/ Practice by Unregistered Persons

Section 6731.1 does not prohibit any person from preparing plans, drawings or specifications for any of the following:

a/ Single family dwellings of wood frame construction not more than two stories and a basement in height.

b/ Multiple dwellings containing no more than four dwelling units of wood frame construction on any lawfully divided lot with the height limitations in Item a/.

14/ Registered Architect Exemption

Section 6737 permits an architect, who hold a certificate to practice architecture in this State under the provisions of Chapter 3 of Division 3 of this Code, insofar as he practices architecture in its various branches, is exempt from registration under the provisions of this chapter. See Item I.B.1.a beginning on Page 61-2 regarding the practice of architecture.

15/ Exemption of Property Owners or Lease Holders from Practicing Engineering

Section 6744 states that registration for the purpose of practicing civil engineering by an individual, a member of a firm or partnership, or by an officer of a corporation on or in connection with property owned or leased by the individual, firm, partnership, or corporation is not required unless the civil engineering work to be performed involves public health or safety or the health or safety of the employees of the individual, firm, partnership or corporation.

16/ Exemption for Store Fronts, Interior Alterations, etc.

Section 6744 does not prohibit a person from altering a store front or making interior alterations as long as the structural safety of the building is not affected.

17/ Powers to Investigate Offences

Section 6784 states that the Board shall have the power, duty and authority to investigate violations of the provisions of this Chapter.

18/ Law Enforcement Duty

Section 6786 states that it is the duty of the respective members of the legal system to prosecute all persons charged with the violation of any of the provisions of this Chapter.

19/ Misdemeanors and Penalties

Section 6787 notes all the misdemeanors and penalties for violating provisions of this Chapter. Section 6788 notes punishment for failure to assist during a national disaster emergency or major disaster declared by the President of the United States.

d. Chapter 12.5 - Geologists and Geophysicists

Chapter 12.5, "Geologists and Geophysicists" (beginning with Section 7800), regulates the practice of geologists, geophysicists and certified specialty geologists and geophysicists. This includes certified engineering geologists. The following sections within this Chapter are of interest:

1/ Definition of Geology

Section 7802 defines Geology as a science which treats the earth in general; investigation of the earth's crust and the rocks and other materials which compose it; and the applied science of utilizing knowledge of the earth and its constituent rocks, minerals, liquids, gases and other materials of the benefit of mankind.

2/ Definition of Geophysics

Section 7802.1 defines Geophysics as that science which involves study of the physical earth by means of measuring it natural and induced fields of force, including but not limited to electric, gravity and magnetic and its responses to natural and induced energy and the interpreting of these measurements and the relating of them to the physics of the earth.

3/ Definition of Geologist

Section 7803 defines Geologist as a person engaged in the practice of geology.

4/ Definition of Geophysicist

Section 7803.1 defines Geophysicist as a person engaged in the practice of geophysics.

5/ Registration Privileges

Sections 7804 and 7804.1 state that only persons registered as a registered geologist, registered certified specialty geologist, registered geophysicists, registered certified specialty geophysicist can use the registered title.

6/ Responsible Charge of Work

Section 7805 defines the term, "responsible charge of work", as the independent control and direction by the use of initiative, skill and independent judgment of geological or geophysical work or the supervision of such work.

7/ Definition of Qualified Geologist

Section 7807 defines "Qualified Geologist as a person who possesses all the qualifications specified in Section 7841 for registration except that he/she is <u>not</u> registered.

8/ Certification of Specialties

Section 7822 permits the Board of Registration for Geologists and Geophysicists to issue certifications of registration into different specialties, including, but not limited, to petroleum, mining and groundwater. The Board shall provide such a certificate for those qualified in engineering geology.

9/ Permitted use of title "Registered Geologist" or "Registered Certified Specialty Geologist"

Section 7830 states that it is unlawful for anyone other than a geologist registered under this Chapter to stamp or seal any plans, specifications, plats, reports, or other documents with the seal or stamp of a registered geologist or registered certified specialty geologist, or to use in any manner the title "registered geologist" or the title of any registered certified specialty geologist unless registered or registered and certified, hereunder.

Section 7831 states that it is unlawful use a stamp or seal if the registration of the registrant has expired.

10/ Signing of Geologic Plan and Reports

Section 7835 states that all geologic plans, specifications, reports or documents shall be prepared by a registered geologist, or registered certified specialty geologist. A subordinate employee under the direction of the registered geologist may sign. The registered geologist who is responsible for the work may sign or stamp the work with his seal.

11/ Exemption of Civil and Petroleum Engineers

Section 7838 states that a civil engineer empowered to practice civil engineering in this state and a petroleum engineer registered in this State, insofar as they practice civil engineering in its various branches or petroleum engineering, respectively, are exempt from registration under the provisions of this chapter.

12/ Geologists and Geophysicists Practicing Civil Engineering

Section 7839 states that this Chapter does not empower a geologist or a geophysicist registered under this chapter to practice or offer to practice civil engineering and any of its various recognized branches.

13/ Other Registration Restrictions

Section 7839.1 states that a registered geologist cannot practice or offer to practice geophysics unless the work is related to his/her practice of geology. A geophysicist cannot offer to practice geology for others in this State except as such geological work is related to his/her practice of geophysics.

14/ Law Enforcement Duty

Section 7871 states that it shall be the duty of the respective officers charged with the enforcement of laws and ordinances to prosecute all persons with the violation of any of the provisions of this chapter. It shall be the duty of the executive officer of the board, under the direction of the board, to aid these officers in the enforcement of this chapter.

e. Chapter 15 - Land Surveyors

Chapter 15 of this Code (beginning with Section 8700) describes the practice of land surveying and the procedures for preparing and registering land surveys.

Chapter 53 of this Manual contains a summary of the statutes regarding performing and registering land surveys. The following is a summary of the practice of land surveying within this Chapter 15:

1/ Definition of Professional Land Surveyor

Section 8701 defines a "Professional Land Surveyor" as one who practices or offers to practice land surveying. Any reference in the statutes to land surveyor shall mean professional land surveyor.

2/ Definition of Responsible Charge of Work

Section 8703 defines "responsible charge of work" as the independent control and direction by the use of initiative, skill, and independent judgment, of the observations, measurements and descriptions involved in land surveying work. The phrase does not refer to financial liability.

3/ Practice of Land Surveying

Section 8704 states that any person who practices land surveying when he/she professes to be a land surveyor or is in responsible charge of land surveying work.

4/ Protected Title

Section 8708 states that no person shall practice land surveying unless appropriately licensed or specifically exempted from licensure under this chapter and only persons licensed under this Chapter shall be entitled to take and use the titles "licensed land surveyor," "professional land surveyor," or "land surveyor," or a combination thereof.

5/ Definition of Land Surveying

Section 8726 defines in great detail the practice of land surveying. Basically land surveying is practiced within government and in a private capacity. A land surveyor can locate a fixed work as a part of civil engineering under the direction of a civil engineer. Only a land surveyor can set property lines and monuments. Geodetic or cadastral surveying is also part of land surveying.

6/ Performing Civil Engineering Work

Section 8726.1 allows any licensed land surveyor to offer to practice, procure, and offer to procure civil engineering work incidental to his or her land surveying practice, even though he or she is not authorized to perform such work, provided all such civil engineering work is performed under the direction of a registered civil engineer.

7/ Surveys for Geological or Landscaping Purposes

Section 8727 states that surveys made exclusively for geological or landscaping purposes, which do not involve the determination of any property line, do not constitute surveying within the meaning of this chapter.

8/ Civil Engineering Design

Section 8728 states surveys authorized under this chapter do not include the design, either in whole or in part, of any structure or fixed works embraced within the practice of civil engineering.

9/ Persons exempt from License Requirement

Section 8730 notes exemptions from being registered from practicing land surveying. In general, it is officers and employees of the Federal government practicing within federal lands and any officer or employee of an electric, gas or telephone corporation preparing a legal description of an easement for utility distribution lines and service facilities.

Section 8731 notes that a registered civil engineer registered prior to January 1, 1982 has the same rights and privileges and the same duties and responsibilities as a land surveyor. Those registered after that time will have to take the second division examination and obtain a land surveyor's license before practicing land surveying as defined in this chapter.

10/ Authorized Practices by a Surveyor (Licensed Land Surveyor or Registered Civil Engineer)

Section 8761 defines the practices of a licensed land surveyor and registered civil engineer. Both may practice land surveying and prepare maps, plats, reports, descriptions or other documentary evidence in connection therewith. These documents issued by a licensed land surveyor or registered civil engineer shall be signed by the surveyor or engineer to indicate the surveyors or engineer's responsibility for them. In addition to the signature, the map, plat, report, description or other document shall bear the seal or stamp of the licensee or registrant and the expiration date of the license or registration. This must appear on all sheets of a map and on the cover sheet of a report, description, or other document. When filed as a public record, the documents must comply with the provisions of Section 8764 of this Code.

11/ Liability of Person Signing Survey documents.

Section 8761.2 states that a registered civil engineer or licensed land surveyor who signs the documents shall not be responsible for damage cause by subsequent changes to or uses of these documents where the subsequent changes were done by state or local governmental agencies and not authorized or approved by the registered civil engineer or licensed land surveyor, who originally signed the documents, provided that the original documents were not the approximate cause of the damage.

12/ Compliance with the Subdivision Map Act

Section 8762.5 states that no record of survey or division of land shall be filed with the county surveyor or county recorder unless there is attached a certificate by the county surveyor or if the land is within an incorporated city, the city engineer. The certificate must be in conformance with the provisions of the Subdivision Map Act, Division 2 (commencing with Section 66410) of Title 7 of the Government Code, and any applicable local ordinance.

2. Government Code

The Government Code contains statutes that define the powers of the government within the State. This includes, State Agencies, State Districts, Counties and Cities. The following Titles within this Code regulate land development:

a. Title 3 - Government of the Counties

Division 2 "Officers", Part 3 "Other Officers" mandates the duties of County Officers. Of interest is Chapter 11 "Surveyor". The following is a summary of the Sections within that Chapter:

1/ Qualifications, Election or Appointment

Section 27550 states that the (County) surveyor shall be a person authorized to practice land surveying in this state. He/she shall be elected in the same manner as other county officers unless the board of supervisors of the county have provided by ordinance for his or her appointment by the board. If appointed, the surveyor shall serve at the will of the board.

2/ Duties

Section 27551 states that the surveyor shall make any survey that is required by order of court or the board of supervisors. He shall maintain records of the surveys.

3/ Assisting State Lands Commission

Section 27554 state that when required, the surveyor shall aid and assist the State Lands Commission in making surveys within the county.

4/ Powers of City Legislative Body to Supply Water

Section 38742 states the powers granted to city legislative bodies to obtain water and distribute to its inhabitants.

5/ Surveyor is Ex Officio Deputy Recorder

Section 27556 states that the surveyor shall copy, plat, or trace each map filed for record in the office of county recorder, at the cost of the party filing the map, and is ex

officio deputy recorder for the county for such purposes. All maps or plats filed by a licensed land surveyor and by others are exempt from this section.

6/ Surveyor to Make Maps for Assessor

Section 27557 states that the surveyor shall plat, trace, blueprint, or otherwise make all county, road, district, and other maps and all assessors' block-books for the county.

7/ Road Surveys, etc.

Section 27662 states that the surveyor shall make such surveys of county roads and perform such engineering work as the board of supervisors directs.

b. Title 4 - Government of the Cities

While other sections of the State Codes refer to the City Engineer, There are no references in Title 4 (which beginning with Section 34000) to the city engineer. Division 3, "Officers", Part 2 "Legislative Body" (beginning with Section 36800) contains two chapters related to engineering duties. They are Chapter 10, "Health and Safety" (beginning with 38600) and Chapter 18, "Public Works" (beginning with Section 40400). The following are Sections within these chapters that are of interest:

1/ Regulation of Buildings for Fire Limits Section 38601 permits the city's legislative body to regulate fire limits and to regulate building and construction and removal of buildings.

2/ Building Ordinances

Section 38660 allows the city's legislative body to regulate construction and building and to prevent unsafe structures. The body also has the power regulate the construction of drains and sewers and the materials used for wiring and piping of structures.

3/ Authority to Acquire Water, Water Rights, etc.

Section 38730 allows a city to acquire water and water rights for the use of the city and its inhabitants.

4/ Powers of City Legislative Body to Supply Water.

Section 38742 states the powers granted to city legislative bodies to obtain water and distribute it to its inhabitants.

5/ Authority of City Legislative Body to Perform Public Works

Section 40401 permits the City Legislative Body to expend city funds for the listed specific types of projects.

6/ Authority of City Legislative Body to Damage or Acquire Private Property to Construct Public Works

Section 40403 permits a city legislative body to damage private property in order to construct a bridge.

Section 40404 permits a city legislative body to acquire private property for construction of specifically listed public works.

c. Title 5 - Local Agencies

Title 5 (beginning with Section 50001) presents other powers granted to the Cities and Counties both in common and jointly.

d. Title 6 - Districts

Title 6 (beginning with Section 58000) presents general powers granted to Districts.

e. Title 7 - Land Use

Title 7 (beginning with Section 65000) is divided into three divisions as follows:

1/ Division 1 - Planning and Zoning

As noted in Chapter 53, Division 1 (beginning with Section 65000) contains the authority of local agencies to regulate land use.

2/ Division 2 - Subdivisions

As noted in Chapter 53, Division 2 (beginning with Section 66410) contains the authority of local agencies to process subdivisions. Of interest regarding personnel qualifications are the following Sections within this Division:

a/ Persons Qualified to Prepare Final Map

Section 66434 states that the final map shall be prepared under the direction of a registered civil engineer or licensed land surveyor and shall be based on a survey. That means that some of the preparation of the final map must be done under the direction of a person qualified to perform land surveying.

b/ Public Inspection of Geotechnical Reports

Section 66434.5 requires that when a soils report, geologic report, or soils and geologic report has been prepared specifically for the subdivision, each report shall be kept on file for public inspection by the city or county having jurisdiction.

c/ Engineer or surveyor statement required

Section 66441 requires that a statement by the engineer or surveyor responsible for the survey and final map is required.

Section 66449 specifies a specific statement from the engineer or surveyor who was responsible for the preparation of the parcel map.

d/ County Surveyor or City Engineer Statements on Subdivision Maps

Sections 66442 and 66450 requires a statement from the County Surveyor or City Engineer before the map can be recorded. Part of the statement can be signed only by a person qualified to practice land surveying. Otherwise, the other statements can be signed by either a registered civil engineer or licensed land surveyor.

e/ Preparation of Improvement Plans

Section 66456.1 (a) states among other things that improvement plans processed in conjunction with either an approved tentative, parcel, or final map shall be prepared by a registered civil engineer.

f/ Review of Maps by Registered Engineers and Licensed Surveyors

Section 66474.10 states that if engineering or land surveying conditions are to be imposed on a tentative map or a parcel map for which a tentative map was not required, those conditions shall be reviewed by the city engineer, city surveyor, county engineer or county surveyor, as appropriate, to determine compliance with generally accepted engineering or surveying practices.

g/ Legislative Body Must Accept or Reject any Dedication

At the time of final map approval, the legislative body must accept or reject any offers of dedication.

h/ Soil Report Requirements

Article 7 "Soil Report" consisting of Section 66490 and 66491 require that a preliminary soil report prepared by a civil engineer registered in this state, and based on adequate test borings, shall be prepared for every subdivision for which a final map is required.

The soil report may be waived if the local agency shall determine that, due to the knowledge it has as to the soils qualities that no preliminary analyses is necessary. The power of local agencies to require additional information is also specified.

i/ Monuments

Article 9 "Monuments" (beginning with Section 66495) contains provisions for setting monuments. These must be done by a qualified civil engineer or licensed land surveyor.

3/ Division 3 - Official Maps

Division 3 (beginning with Section 66499.50) notes in Section 66499.50 that all provisions in this Division apply to all counties and incorporated and unincorporated cities, towns and villages. Other Sections of interest within this Division are as follows:

a/ Competency of Engineers and Surveyors

Section 66499.51 (c) requires that governing bodies may employ competent engineers and surveyors if there is no (elected) city engineer or county surveyor.

b/ Preparation of Official Maps

Section 66499.52 states that a city engineer or county surveyor may prepare official maps under the approval of the governing body. The city engineer or county surveyor may review official maps prepared by others in accordance the Subdivision Map Act (Division 2). (See Item 2 above.)

The city engineer or county surveyor may compile official maps prepared by others.

c/ Surveys and Field Notes

Section 66499.58 requires that all surveys and field notes made by any engineer or surveyor under the provisions of this Division become public record and shall be filed in the office of the surveyor or engineer.

3. Public Resources Code

The Public Resources Code contain several Divisions applicable to land development and are presented in other chapters in Part IV of this Manual. The following Divisions within this Code are of interest:

a. Division 2 - Geology, Mines and Mining

Division 2 "Geology, Mines and Mining" (beginning with Section 2001) spells out qualifications for certain land development work.

1/ Chapter 7.5 - Special Studies Zones

Chapter 7.5 (beginning with Section 2621) is known as the Alquist Priolo Special Studies Zone Act. Section 2621.5 authorizes the State Mining and Geology Board to establish criteria and policies for implementation of this chapter.

2/ Chapter 9 - Surface Mining and Reclamation Act

This chapter (beginning with Section 2710) contains requirements reclaiming surface mines. None of the provisions in this Division limit the preparation of reports to a specific profession. Other Code provisions will apply.

b. Division 13 - Environmental Quality

Division 13 "Environmental Quality" (beginning with Section 21000) specifies regulations imposed on local agencies regarding environmental quality. None of the provisions in this Division limit the preparation of reports to a specific profession or defines the profession of "Environmental Assessor." Other Code provisions will apply.

c. Division 17 - Geologic Hazard Abatement Districts

Division 17 "Geologic Hazard Abatement Districts" (beginning with Section 26500) specifics how local agencies can establish special districts to stabilize landslides. None of the provisions in this Division limit the preparation of reports to a specific profession. Other Code provisions will apply.

C. Code of Regulations

The Code of Regulations contain rules from the various regulatory departments, agencies and boards that clarify statutes as permitted in these statutes. It should be noted that the Code of Regulations can be revised at any time by the responsible agency. Therefore, the responsible agency should be contacted for the latest wording. The following is a summary of the provisions within this Code that are of interest:

1. Title 8 - Industrial Relations

a. Division 1 - Department of Industrial Relations

The Department of Industrial Relations is responsible for the preparation and revisions of the provisions within this Division.

1/ Chapter 3.2 - California Occupational Safety and Health Regulations (CAL/OSHA)

Chapter 3.2 (beginning with Section 330) contains the enforcement regulations. This includes obtains permits, investigation procedures and imposing penalties for violations.

Subchapter 2 "Regulations of the Division of Occupational Safety and Health" (beginning with Section 340) contains the permit requirements of this Division. Of interest in Article 2 "Permits-Excavations, Trenches, Construction and Demolition" (beginning with Section 341) contains permit requirements and the procedures for obtaining a permit. Section 341 notes when a permit is required and not required. Section 341.1 states that an employer subject to Section 341 must apply and obtain a permit. Section 341.4 states that the employers must post a copy of the valid permit near each place of employment.

2/ Chapter 3.3 - Occupational Safety and Health Appeals Board

Chapter 3.3 (beginning with Section 345) contains the procedures for filing an appeal to a CAL/OSHA penalty.

3/ Chapter 4 - Division of Industrial Safety

Chapter 4 (beginning with Section 450) contains all the rules and regulations for employee safety and health. Subchapter 4 "Construction Safety Orders" (beginning with Section 1500) contains all the employee safety and health rules that apply to the construction industry.

a/ Article 6 - Excavations, Trenches, Earthwork

Article 6 (beginning with Section 1539) contains the regulations pertaining to grading and trenching.

b/ Article 8 - Explosives

Article 8 (beginning with Section 1550) contains the regulations for handling explosives including igniting them.

2. Title 14 - Natural Resources

a. Division 2 - Department of Conservation

Chapter 8 "Mining and Geology" (beginning with Section 3500) contains the rules and regulations issued by the State Mining and Geology Board. The following Articles within this Chapter is of interest:

1/ Article 1 - Surface Mining and Reclamation Practice

This Article (beginning with Section 3500) contains many regulations that are presented in Chapter 55 of this Manual. Section 3501 "Definitions" contain many technical definitions that must be utilized when enforcing this act. There are no restrictions as to who may perform the required work in this Article.

2/ Article 3 - Policies and Criteria of the State Mining and Geology Board with Reference to the Alquist-Priolo Special Studies Zones Act

This Article (beginning with Section 3600) provides the procedures that must be followed for development near a suspected active fault.

a/ Section 3600 - Purpose

The purpose of this article is to set forth the policies and criteria of the State Mining and Geology Board governing the exercise of city, county, city and county, and state agency responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults.

b/ Section 3601 - Definitions

This section lists definitions as used within the act and within this Article. These terms are required to be used in reports required by this Act.

c/ Section 3603 - Specific Criteria

This section contains specific criteria that applies with special studies zones which must be enforced by local agencies. This section requires that a geology report be prepared (signed by a registered geologist). A registered geologist retained by the lead agency must review the report. A copy of the approved report must be filed with the State Geologist. The State Geologist must place such reports on open file.

b. Division 7 - California Waste Management Board

Division 7 (beginning with Section 17020) contains the powers of the California Waste Management Board. These regulations were covered in Chapter 59 of this Manual.

c. Division 8 - Environmental Affairs Agency

Division 8 (beginning with Section 19001) contains the procedures for obtaining permits before this Board. Chapter 3 "Voluntary Registration of Environmental Assessors" (beginning with Section 17030) contains the procedures for becoming registered as an environmental assessor.

Section 19021 "Qualifications and Application Procedures" requires that the applicant for registration as an "Environmental Assessor" have the following qualifications:

1/ Demonstrate a minimum of five (5) years full time experience in the applicant's general field of expertise, acquired within the last eight (8) years.

2/ Demonstrate a minimum of two (2) years substantial experience in performing environmental assessments acquired within the last four (4) years.

3/ Possess a bachelor's or higher degree from an accredited college or university in a physical or biological science, engineering or law. State certification, licensing or registration or certification by a nationally recognized professional association in a physical or biological science, engineering or law shall be considered equivalent to such training. Five (5) years substantial experience performing environmental assessments acquired within the last eight (8) years shall also be considered equivalent to such training.

There are no other professional qualifications such as passing a written examination.

3. Title 16 - Professional and Vocational Regulations

a. Division 2 - California State Board of Architectural Examiners

Division 2 (beginning with Section 100) contains the rules and regulations issued by the Board of Architectural Examiners regarding the practice architecture. This is authorized under the Business and Professions Code. (See Item I.B.1.a beginning on Page 61-2.)

This Division contains no clarifications regarding the practice of architecture. Article 8 "Disciplinary Proceedings" (beginning with Section 150) contains definitions of misconduct of architects.

b. Division 5 - State Board of Registration for Professional Engineers and Land Surveyors

Division 5 (beginning with Section 400) contains detailed provisions regarding the practice of professional engineering and land surveying. The following Articles and Sections within this Division are of interest:

1/ Article 1 - General Provisions

a/ Section 404 - Definitions

This section defines in more detail the various branches of professional engineering and land surveying.

b/ Sections 404.1 and 404.2 - Responsible Charge of Work for Professional Engineers and Licensed Land Surveyors

Section 404.1 describes in detail what acts perform by professional engineers constitute responsible charge of work. Section 404.2 describes in detail what acts performed by land surveyors constitute responsible charge of work.

c/ Section 415 - Practice within Area of Competence

Section 415 states that a professional engineer or land surveyor registered or licensed under the Code shall practice and perform engineering or land survey work only in the field or fields in which he/she is by education and/or experience fully competent and proficient.

2/ Article 2 - Applications

a/ Sections 416.11, 426.12 and 426.13 - Qualifying Experience for Structural Authority

These sections state the experience required for a person to be set for the examination for Structural Engineer. The candidate must be able to utilize specific building materials such as steel, concrete, wood and masonry as they relate to building construction. The candidate must also he able to determine lateral forces, select framing systems and foundation systems.

b/ Section 426.51 - Qualifying Experience for Geotechnical Engineer

This section lists four areas and many detailed problems for which a candidate must qualify in order to be set for the examination. The candidate must demonstrate having developed programs of geotechnical investigation, performed field and laboratory test studies, analyzed geotechnical data and engineering computations and performed or did an engineering evaluation of construction, post construction and site monitoring.

3/ Article 4 - Miscellaneous

a/ Section 461 - Testing Laboratory Reports

Reports issued by testing Laboratories shall be prepared by or under the supervision of a registered civil, electrical or mechanical engineer as appropriate.

c. Division 26 - Board of Landscape Architects

This Division (beginning with Section 2600) contains the regulations pertaining to the practice of landscape architecture. Of interest within this Division are the following Sections:

1/ Section 2602 - Definitions

This Section contains basic definitions applicable to the practice of landscape architecture.

2/ Section 2625 - Written Examination

The written examination shall include the following items: History, Professional Practice, Design, Design Implementation, Plant Materials and General Ecology.

3/ Section 2671 - License Number Required in Public Presentations and Advertising

This Section states that a landscape architect shall include his/her unrevoked California license number in all forms or advertisements or presentments made to the public in connection with the rendition of landscape architectural services for which a license is require by the code. It should be noted that local codes require that design plans must also contain the seal or stamp.

d. Division 29 - Board of Registration for Geologists and Geophysicists

This Division (beginning with Section 3000) contains the regulations pertaining to the practice of Geology and Geophysics. Of interest within this Division are the following Articles:

1/ Article 1 - General Provisions

Section 3003 "Definitions" includes definitions regarding:

a/ "Engineering Geology" — The application of geologic data, principles and interpretation so that geologic factors affecting planning, design, construction and maintenance of civil engineering works are properly recognized and utilized.

b/ "Responsible Position" — A position whereby a person having individual control and direction of a geological project exercises individual initiative, skill and judgment in the investigation and interpretation of geological features, or the supervision of such projects.

c/ "Professional Geological Work" — Work performed at a professional level rather than at a subprofessional or apprentice level.

d/ "Practice of Geology or Geophysics" – Includes but is not limited to the preparation of geologic or geophysical reports, documents or exhibits.

2/ Article 4 - Specialties

Section 3041 "Specialty in Engineering Geology," creates the specialty of engineering geology. The applicant for certification in the specialty of "Engineering Geology shall":

a/ Be registered as a geologist in the State of California.

b/ Have a knowledge of:

(1) Geology of the State of California.

(2) Geologic factors relating to Civil Engineering problems typically encountered in the State.

(3) Elementary soil and rock mechanics.

(4) Principles of grading codes and other pertinent regulations. (Chapter 70, Uniform Building Code.)

II. Potential Conflicts Between Professionals

It is the purpose of this Item to give the reader guidelines for determining professional responsibility for acts performed in the land development process. Item I contains a summary of the applicable codes on this subject. Other chapters in Part IV of this manual may also contain data of use in determining adequacy of work. Following are the current potential conflicts that may be encountered in the land development process:

A. Architects Preparing Grading Plans

On February 10, 1989, the Board of Architectural Examiners issued a letter that registered architects could prepare and sign site grading plans. (See letter on Pages 61-23 and 61-24) In the memorandum "Signatures of Designers on Grading plans" from N.C. Datwyler to Tom Remillard, it was determined that the architect's definition of site grading plan would fit the definition as small and unimportant work discussed in Chapter 14 of this Manual. (See Pages 61-24 and 61-25.) Item I.B.1.a on Page 61-2.)

B. Landscape Architects Preparing Grading Plans

Often landscaping plan prepared by Landscape are submitted that substantially modify the grading plans. Often these plan receive no review by a civil engineer. Plans modifying grading are outside the definition of landscape plans and cannot be accepted by an enforcing agency. Reference is made Item I.B.1.b on Page 61-3. An landscape architect can only enhance an area. Modification of the drainage system by an landscape architect is not within the practice of the profession and is restricted to be performed under the direction of a civil engineer. (See Item I.B.1.c beginning on Page 61-3.)

C. Geologists Practicing Engineering

Most work that require the modification of the earth surface require geologic information in order for a civil engineer to make design recommendations. Reference is made to Items I.B.1.d and I.C.3.b beginning on Pages 61-6 and 61-17, respectively. A geologist for a local agency cannot legally reject a plan that must be prepared by a registered engineer unless so authorized by State Code. (See Item I.C.2.a beginning on Page 61-15 for such authorization.)

D. Civil and Petroleum Engineers Practicing Geology

Civil and Petroleum Engineers may practice geology as part of their profession if they are qualified by reason of training and experience. However, they cannot call themselves a geologist. (See Item I.B.1.c and d beginning on Page 61-3.)

E. Fields of Expertise for Civil Engineers and Geologists

Most geotechnical assessments and reports required both registered geotechnical engineers and certified engineering geologists working together to prepare a report on a civil engineering project. The Code provisions that regulate the contents of a report are in Item I beginning on Page 61–1.

Because of potential controversy between the two professions over the definition of practice between an "engineering geologist" and a "civil engineer competent to practice geotechnical engineering" as described in Items C and P above, a joint committee from the two Boards prepared a set of guidelines to define specific responsibilities and joint areas of practice between the two professions. The guidelines at the end of this chapter have been approved by both Boards. The

guidelines were prepared for the California Department of Consumer Affairs' use for jurisdictional disputes or complaints filed. This advisory document is based primarily on current State Codes and should be considered by the professions in both the preparation and the review of a geotechnical report. In interpreting this document, the following should be noted:

1. The tasks limited to civil engineers listed in the right column have been codified as described in Item I.B.1.c beginning on Page 61-3, Item I.C.3.b beginning on Page 61-17 and can only be performed under the direction of a registered civil engineer.

2. A geologist cannot practice civil engineering and any of its various recognized branches such as geotechnical engineering as noted in Item I.B.1.d, 11 on Page 61-8.

3. The detailed practice of engineering geology is listed in the left column.

III. Cooperation Between Professionals

In order to have a successful land development project, there must be positive input from a wide variety of professionals from the Development Design Team and regulating government agencies. Both political and technical considerations must be evenly balanced in arriving at final development design and construction procedure. Each professional has a vital contribution and must be considered in the overall design. All participants must recognize the expertise of all participating professionals and the role they are required to assume.

No one professional should dictate a project design. However, all participating professionals must consider that the final design must be feasible within their areas of expertise.

Land development failures have occur when input from one professional is lacking or has been ignored.

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STATE OF CALIFORNIA—STATE AND CONSUMER SERVICES AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF Consumer Affairs

BOARD OF ARCHITECTURAL EXAMINERS
BOX 944258
1021 O STREET, SACRAMENTO CALIFORNIA 94244-2580
TELEPHONE: (916) 445-3393

February 10, 1989

BUILDING OFFICIAL INFORMATION BULLETIN

89-01

The California Board of Architectural Examiners (CBAE) has an active building official contact effort as part of its enforcement program. The board attempts to keep all building officials up to date on changes in the Architects Practice Act, its roster of licensed architects, its regulations, and its policies. On a periodic basis the CBAE issues informational bulletins which explain these changes. The CBAE does not attempt to dilute or negate the discretion of local jurisdictions. All bulletins including statutory interpretation are advisory.

SIGNATURE ON SITE GRADING PLANS

The California Board of Architectural Examiners (CBAE) has received a number of inquires directly and through its Building Official Contact Program from architects and building officials regarding who is authorized to prepare and sign Site Grading Plans. This bulletin is issued to clarify the law to those jurisdictions which have mistakenly prohibited architects from signing grading plans related to their architectural projects. Business and Professions Code Section 5500.1 subsection (a) defines the practice of architecture as follows:

> "The practice of architecture within the meaning and intent of this chapter is defined as offering or performing, and being responsible for, professional services which require the skills of an architect in the planning of sites, and the design, in whole or in part, of buildings, or groups of building and structures."

As defined in Section 5500.1 an architect is authorized to plan sites. The preparation of drawings and specifications concerning on-site drainage and grading is clearly related and integral to site-planning, and would therefore be included within the scope of the practice of architecture.

Section 6737 of the Professional Engineers Act provides that a licensed architect , when practicing architecture in its "various phases", is specifically exempted from obtaining an engineer's registration to engage in activities such as site-planning and grading, since site planning is a function (phase) of the practice of architecture

The question as to whether a city or county, by ordinance or regulation, may prohibit state licensed architects from engaging

in preparation of plans involving site-grading by limiting preparation and signing of such plans to consulting engineers is answered in Section 460 of the California Business and Professions Code, which provides as follows:

> "No city or county shall prohibit a person, authorized by one of the agencies in the Department of Consumer Affairs by license, certificate, or other such means to engage in a particular business, from engaging in that business, occupation, or profession or any portion thereof..."

This section clearly prohibits a city or county from preventing any person presently licensed by the Department of Consumer Affairs from engaging in the duties and functions of that profession. As discussed above, site grading is a function of the practice of architecture, and therefore, a licensed architect may not lawfully be prohibited from preparing and signing site grading plans and specifications.

If you have any questions concerning the above, or any portion of the Architects Practice Act, please contact the Board's Enforcement Unit at (916)445-3393 or (916) 324-9914.

May 22, 1990

TO: Tom Remillard
Building & Safety Division

FROM: N. C. Datwyler
Land Development Division ncd

SIGNATURES OF DESIGNERS ON GRADING PLANS

Please establish the following policy regarding signatures on grading plans that are submitted to be reviewed by Land Development Division:

> Grading plans should not be accepted by the Building & Safety District Offices unless the plans are signed by a civil engineer who has taken personal responsibility for the grading design. Geotechnical and structural engineers are civil engineers. No other professionals such as, architects and landscape architects may sign grading plans in lieu of the civil engineer. Grading plans for small and unimportant work as defined on Page 70-04 of the Building Code Manual may be accepted by the Department without the signature of a civil engineer. This type of grading plan should not be submitted to the Land Development Division for review and approval.

DISCUSSION: The California Codes are very specific as to who can and who cannot perform grading design work. On February 10, 1989 the Board of Architectural Examiners issued Building Official Information Bulletin 89-01 stating that architects under their interpretation of the California Code could sign site grading plans. Since the issuance of this Bulletin, the California Code has been modified. The applicable sections of the current California Codes are as follows:

1. Section 66456.2 of the California Government Code (Subdivision Map Act) requires that "an improvement plan being processed in conjunction with either an approved tentative, parcel, or final map shall be prepared by a registered civil engineer..."

2. Section 5500.1 of the California Business and Professions Code (B&PC) defines the practice of architecture ... "as offering or performing or being responsible for, professional services which require the skills of an architect in the planning offsites, in the design in whole or in part, of buildings or groups of buildings and structures." This permits the architect to submit site plan layouts as part of a building or groups of building and structures being prepared by the architect. The layout must be incidental to the building design. Nowhere in the Architecture Chapter of the California Business and Professions Code does it state that drainage, geotechnical engineering, hydraulic engineering or hydrology can be practiced by the architect. These subjects are often part of grading design.

3. Sections 6731 and 6731.1 of the B&PC defines civil engineering as embracing studies or activities in connection with fixed works for drainage. Civil engineering also includes the practice or offer to practice either in a public or private capacity, all of the following:

   a. Locates, relocates, establishes, reestablishes or retraces the alignment or elevation for any of the fixed works embraced within the practice of civil engineering as described in the previous section.

   b. Determines the configuration or contour of the earth's surface or the position of fixed objects thereon or related thereto, by means of measuring lines and angles, and applying the principles of trigonometry or photogrammetry. This section of the code cannot apply to architects because it has no connection with any building or structure.

4. Section 6737 of the B&PC states that "An architect, who holds a certificate to practice architecture in this State under the provisions of Chapter 3 of Division 3 (Architecture) of this code insofar as he practices architecture in its various branches, is exempt from registration under the provisions of this chapter (Professional Engineers)."

Therefore, it can be concluded that architects and other professionals can prepare those grading plans that are considered small and unimportant that require no design that is reserved exclusively to the civil engineer. This limits the architect to being permitted to establish contours for the new grading and to calculate earth work volume.

CGS:emq (L-M.40)

Attach.

cc: Engeman, Kubomoto, Martinez, Sudduth

DEPARTMENT OF Consumer Affairs

BOARD OF REGISTRATION FOR
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
1428 HOWE AVENUE, SUITE 56, SACRAMENTO, CA 95825-3298
MAILING ADDRESS: P.O. BOX 659005, SACRAMENTO, CA 95865-9005
TELEPHONE: (916) 920-7466

APPROVED BY THE BOARD - MARCH 10, 1989

FIELDS OF EXPERTISE

This document was prepared to assist the Board of Registration for Professional Engineers and Land Surveyors to differentiate between the responsibilities and duties of civil engineers who specialize in geotechnical work on the one hand and registered geologists and certified engineering geologists on the other hand. The purpose of this document is to review the "gray" areas where civil engineering and engineering geology overlap and to list activities which are normally done by each and which can be performed by both. It is noted that these classifications and tables are primarily guidelines for the board's executive officer and staff when a jurisdictional dispute or complaint is filed with the board. This memorandum is an internal office document which has no legal status and can be used, modified or disregarded depending on the circumstances.

This memorandum is not intended to be used as a guideline for evaluating applications for registration ; to set standards or guidelines for the state, county or city agencies; or to be adopted as an official policy statement by the board.

Engineering Geologist (C.E.G.)	Both	Civil Engineer Competent to Practice Geotechnical Engineering

(1) CLASSIFICATION AND PHYSICAL PROPERTIES

Rock description and classification Origins of rock Source area	Visual soil description Wentworth - Unified soil classification system	Testing of earth materials for classification, and physical properties

(2) ROCK MECHANICS

Descriptive Rock structure and jointing Qualitative performance of rock masses Configuration Attitude in nature (joints, fractures, bedding, etc.)	In-situ studies Regional-Local	Quantitative performance of rock masses, e.g., rock testing, stability analysis, stress distribution and rebound evaluation

61-26

FIELDS OF EXPERTISE

Engineering Geologist (C.E.G.)	Both	Civil Engineer Competent to Practice Geotechnical Engineering
(3)	SLOPE STABILITY	
Interpretative stability of natural rock cut slopes Geologic analyses-geometrics Spacial relationship	Excavation in hilly terrain Causative agents	Quantitative slope stability analysis utilizing developed material properties, hydrostatic forces and configuration
(4)	SOIL AND ROCK MAPPING	
Geologic mapping Air photo interpretations Geomorphology Subsurface geology	Geometric relationships	Soil type mapping
(5)	PROJECT PLANNING	
Development of geologic parameters Geologic feasibility	Analysis of effects of geologic conditions on proposed projects	Engineering analysis of effects of subsurface conditions on proposed project Economics
(6)	SURFACE WATERS	
	Stream description Silting potential Erosion potential Source of base flow Sedimentary processes Source of material	Volume and rate of runoff Design of works for control Coastal and river engineering Hydrology
(7)	GROUNDWATER	
Hydrogeology Occurrence Geologic structural controls Direction of movement Underflow studies Characteristics of water-bearing and non-water bearing materials	Drainage Contamination Well design Subsidence Field permeability Transmissibility Specific yield Storage computation	Engineering hydrology Mathematical treatment of well systems Development concepts Design of dewatering systems Regulation of supply Economic considerations Laboratory permeability

APPROVED BY THE BOARD - MARCH 10, 1989

FIELDS OF EXPERTISE

Engineering Geologist (C.E.G.)	Both	Civil Engineer Competent to Practice Geotechnical Engineering
(8)	EARTHQUAKES AND GROUND VIBRATIONS	
Location of faults Evaluation of potential fault activity Qualitative ground vibration analysis	Seismicity Historic record of earthquakes	Response of soil and rock materials to seismic activity Seismic design criteria for structures Laboratory soil dynamics tests Quantitative ground vibration analysis
(9)	SUBSURFACE EXPLORATION	
Logging of rock material Down-hole observations for structure geometry	Planning Supervision Observation Logging of soil borings Sampling	Planning program as related to proposed project and structural loads
(10)	CONSTRUCTION OBSERVATION	
Excavation in rock material	Grouting Tunnel construction Conduits	Structural foundation conditions Earth and earth/rock embankments Pavements
(11)	EXPANSIVE MATERIALS	
Expansive bedrock	Visual identification Geochemical effects	Lab testing Evaluation of expansion potential under project loadings Preparation of parameters for limiting Development of mitigating solutions
(12)	EMBANKMENT FILL	
	Visual classification Qualitative evaluation of borrow material	Design and construction quality Specifications Evaluation of potential deformations Evaluation of stability

FIELDS OF EXPERTISE

Engineering Geologist (C.E.G.)	Both	Civil Engineer Competent to Practice Geotechnical Engineering
(12)	EMBANKMENT FILL, cont.	
		Seepage control measure Removal of unsuitable material
(13)	INSTRUMENTATION	
Vadose zone monitoring	Water level recorders Slope inclinometers Rock stress and deformation devices Piezometers and observation wells Settlement movements Seismometers and accelerometers Water quality monitoring Tiltmeters Meteorology stations Steam gages	Pore water pressure monitoring Soil pressure devices Vibration monitoring and analysis Pile load testing Tensioning tie-backs
(14)	REGULATORY REQUIREMENTS	
Provide engineering geology input as required		Provide engineering analysis as required
(15)	JOINT EFFORTS	
	Site selections Planning investigations Conducting field exploration Selecting samples for testing Interpreting data Describing and explaining site conditions Stability of natural slopes Construction observation Input to Urban Planning Input to environmental studies	

FIELDS OF EXPERTISE

Engineering Geologist (C.E.G.)	Both	Civil Engineer Competent to Practice Geotechnical Engineering
(16)	HAZARDOUS WASTE REPORTS	
Water wells	Geotechnical borings Monitoring wells Toxic pits Resources Conservation and Recovery Act (RCRA) Toxic fluid monitoring Underground tanks Solid waste disposal sites Waste discharge to land	Broad studies encompassing passing planning, coordination of disciplines including professional engineers, analysis and findings; preparation of conclusions and recommendations

NOTES:

G.E. = Geotechnical Engineer
C.E. = Civil Engineer
S.E. = Structural Engineer
R.G. = Registered Geologist
C.E.G. = Certified Engineering Geologist