

Lee Lake Water District

Sewer System Facility Requirements

August 2008

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**LEE LAKE WATER DISTRICT
SEWER SYSTEM FACILITY REQUIREMENTS
AUGUST 2008**

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**LEE LAKE WATER DISTRICT
SEWER SYSTEM FACILITY REQUIREMENTS**

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SECTION I INTRODUCTION

A. GENERAL

The Lee Lake Water District was formed in 1965 as a California Water District in order to provide water and wastewater service to properties within the I-15 corridor north of Lake Elsinore and South of the City of Corona.

One of LLWD's responsibilities is the delivery of potable water to its customers. LLWD receives all of its water from Western Municipal Water District (WMWD) via WMWD's Mill's Pipeline which receives treated imported State Water Project water through the Mills Filtration Plant located on Allesandro Boulevard in Riverside.

The other responsibility of the District is to provide wastewater service through the collection, treatment, and disposal of sewage produced within the District boundary. Currently, the District operates one treatment facility called the Lee Lake Water Reclamation Facility (LLWRF) with a capacity of 1,580,000 gallons per day. The LLWRF is capable of producing reclaimed water suitable for landscape irrigation uses in compliance with Title 22 of the State Department of Health Services.

The District owns and operates many miles of water transmission and wastewater collection facilities within the District boundaries in order to convey water and wastewater to their respective endpoints.

B. REQUIREMENTS

1. Developer shall design, construct, and dedicate to Lee Lake Water District the sewage collection, pumping and transmission facilities in accordance with the requirements of Lee Lake Water District.
2. Developer shall provide all financial arrangements necessary to plan, design, and construct the project.
3. Developer shall obtain and dedicate sewer utility right-of-way to Lee Lake Water District. Sewer facilities must be in either dedicated road right-of-way or in easements granted to Lee Lake Water District.
4. Developer shall pay current applicable fees (refer to District's Rates and Charges) in addition to completing those requirements listed above. Fees may include; Plan Checking Fees, Connection Charges, Inspection Fees, Added Facilities Charges. District staff should be consulted for current and applicable fees.
5. Lee Lake Water District will review all drawings, and may revise, modify, or require redesign of any concepts, drawings, or details submitted. All concepts and drawings must be approved by the District Engineer.
6. The Developer shall pay for any corrosion engineering costs. These costs shall include a corrosion site survey and a cathodic protection design, if necessary.
7. Procedures for development of sewer systems are similar for Tract Map developments, Parcel Map developments, and single lot main extension

developments. Most procedures and design requirements herein have been prepared for Tract Map developments, but certain portions apply to all sewer system development work within Lee Lake Water District's service area.

**SECTION II
PROCEDURES
CONSTRUCTION DRAWING APPROVAL**

A. CONSTRUCTION DRAWINGS APPROVAL

District staff will review all sewer construction drawings and may revise, modify, or require redesign of any concepts, drawings, or details submitted. All concepts and drawings must be approved by the District Engineer. Construction must begin within one year of approval of Sewer Construction Drawings. If more than one year has elapsed, the project must go through plan check procedure again before starting construction. The steps required to obtain Sewer Facilities Construction Drawing approval are as follows:

1. Submit Engineering Service Application and Plan Check Deposit.
2. Submit Tract Sewer System and Sewer System Analysis.
3. Submit first plan check.
4. Submit subsequent plan checks.
5. Submit original Construction Drawings for approval.
6. Provide District with drawings.

A flowchart for Construction Drawing Approval is shown in Appendix "A". A plan check status sheet to be used by District staff is shown in Appendix "B". Each required step is discussed in detail below:

1. Submit Engineering Service Application and Plan Check Deposit: The Sewer Service Application (available from the District) shall be completed and filed with the Customer services staff. The plan check deposit shall be submitted with the completed application. A copy of the Sewer Service Application is shown in Appendix "C".
2. Submit Tract Sewer System and Sewer System Analysis: Approximately one week after receiving the completed sewer services application and the plan check deposit, District staff will provide contributing sewer flows at connections to the District's system. If the District has no data on existing contributing sewer flows, then District may direct developer to measure sewer flows at selected manholes. District staff may, in addition, provide design recommendations for the sewer system and may request analysis of impact of project on existing downstream sewer facilities.

For commercial and industrial developments, pretreatment may be required.

Based on contributing sewer flows and design recommendations provided by the District, Developer shall submit to the District the following:

- a. One copy of the County of Riverside Conditions of Approval.
- b. Two copies of a master plan of the Tract with the proposed sewer facilities superimposed on same. Said plan shall show sewer manholes, diameter

and slopes of sewers between manholes, and average daily flow for each reach of sewer between manholes.

- c. Two copies of the sewer system analysis of the proposed sewer system.

Details regarding sewer system analysis are included in Section III, Design Criteria.

District staff will review the Tract Sewer System and the sewer system analysis and return one set with comments to the Developer. Minor revisions may be incorporated in the first plan check submittal. If major revisions are required, the Tract Sewer System and sewer system analysis shall be resubmitted until approved by District staff.

3. Submit First Plan Check

1. After review and approval of Tract Sewer System and sewer system analysis, Developer shall submit the following for plancheck review and approval:
 - a. Two copies of the sewer/water construction drawings.
 - b. One copy of the street improvement drawings.
 - c. One copy of the grading plan.
 - d. One copy of the approved Tract Sewer System and sewer system analysis.
 - e. Two copies of easement documents.
 - f. One copy of Tract/Parcel Map.
 - g. Copy of receipt showing submittal to County for plan check of facilities within public rights-of-way.

Construction Drawing plancheck submittals must be complete or they will be rejected. Each submittal shall include a transmittal listing all items submitted and referencing the District project number.

Details regarding sewer design criteria are included in Section III, Design Criteria. Details regarding preparation of construction drawings and easement documents are included in Section IV, Construction Drawing Preparation.

Water and sewer drawings should be combined and shown on the same drawing whenever possible.

The District will provide comments on one set of the sewer construction drawings and return same to Engineer for revisions. The goal of the District staff is to complete the first plan check within three weeks of receipt of submittal. Plan review time varies depending on the number of plans in the review process, size of project, complexity of plans, and completeness of drawings.

4. Submit Subsequent Plan Checks

For each subsequent plan check, Developer shall submit the following:

- a. Previous District plan check set.
- b. Two copies of revised sewer construction drawings.
- c. Two copies of easement documents.
- d. Any additional material requested.
- e. One copy of revised submittal showing County comments for facilities to be installed in public rights-of-way.

Submittals must be complete or they will be rejected. If drawings and easement documents are not yet satisfactory, District will make comments on one set of the drawings and easement documents and return same to Engineer for revisions. This procedure will be repeated as necessary until drawings and easement documents are complete. If Engineer does not return previous District redlined plan check sets, then plan check procedure will start from the beginning including payment of plan check deposit.

Each cycle of the subsequent plan check would normally be completed in approximately three weeks.

5. Submit Original Construction Drawings for Approval

After all plan checks are completed and the sewer construction drawings are acceptable to the District, the original drawings shall be submitted to the District for signature. Prior to District approval of the sewer construction drawings, Developer shall pay all remaining plan checking fees and submit:

- a. Previous District plan check set and one copy of revised sewer construction drawings.
- b. Copy of tentative tract/parcel map showing dedications of streets for road purposes and public utilities purposes,

and/or

- c. Executed Grant of Easement.

Easements shall have the following width:

Sewer Flowline	Easement
<u>Depth (ft)</u>	<u>Width (ft)</u>
All Depths	20

District reserves the right to review requirements on a case by case basis, but the above should be used for planning purposes.

6. Provide District with Drawings

When drawings have been fully approved by all agencies, the Developer shall provide the District with a clean set of photo mylars and three sets of bluelines for District's use.

SECTION III DESIGN CRITERIA

Sewer systems for inclusion into the District's service area shall be designed in accordance with the District's Standard Specifications and Standard Drawings for Water and Sanitary Sewer Facilities, or latest revision, and the following criteria:

A. SEWER SYSTEM ANALYSIS CRITERIA

The District reserves the right to determine the criteria for each sewer system or subsystem based upon conditions that may exist for that particular location, anticipated level of development, planned use, or other criteria. In general, however, the sewer system shall be sized to handle the highest flow within the general area of the tract and shall conform to the following minimum standards:

1. Sewer Diameters: The minimum sewer main diameter is 8".
2. Sewer Friction Factors: The friction factor for gravity sewers (PVC and VCP) shall be $n = 0.013$. The friction factor for force mains (PVC) shall be $"C" = 120$.
3. Average Daily Flow: The residential flow factor shall be 100 gallons per capita per day and the number of people per dwelling unit shall be 2.6 people. Each Equivalent Dwelling Unit (EDU) is equal to 260 gallons per day. The commercial and industrial flow factor shall be 2,000 gallons per acre per day.
4. Peak Flows: Peak flow shall be computed from the average daily flow and the peaking factors shown in Appendix "R".
5. System Analysis: Each sewer in the proposed sewer system shall be analyzed for the following two conditions:
 - a. Average Daily Flow
 - b. Peak Wet Weather Flow

Gravity sewers shall be designed at peak flow with a minimum velocity of 2 feet per second and a maximum velocity of 8 feet per second. The ratio of depth of flow to sewer diameter at peak flow shall not exceed 0.50 for 10" sewer diameters, and smaller and 0.75 for sewer diameters 12" and larger.

Force mains shall be designed to maintain a velocity of between 3 and 5 feet per second. Head losses for force mains shall be approximately 5 feet per 1,000 feet of force main.

B. SEWAGE LIFT STATIONS AND METERING STATIONS

Design of sewage lift stations and metering stations may be performed by the District at Developer's expense. Otherwise, the District will review these stations on a case-by-case basis at the sole cost of the Developer.

C. SEWER CONSTRUCTION DRAWING DESIGN CRITERIA

1. Sewer Location: Unless otherwise approved by the District, all sewers shall be located on the north or east side of the street, six feet from the street centerline per the Riverside County Road Department standards. Location is not to interfere with other existing utilities.

Pipe joint deflection shall not be more than manufacturer's recommended offset in a curved alignment. Joint deflection angle shall be indicated on all horizontal and vertical curves.

Sewer installation near water lines shall be in accordance with State Department of Health Services, Criteria for the Separation of Water Mains and Sanitary Sewers. In general, sewers should cross perpendicular to water lines a minimum of one foot below the water. Sewer lines parallel to water lines shall be located a minimum of 10 feet (clear space) from the water line.

When crossing other utilities, provide a minimum of one foot vertical clearance.

2. Minimum Sewer Cover: The minimum cover over the top of sewer shall be 7 feet from finished road grade, unless at the end of a cul-de-sac where minimum shall be 4 feet. Adequate depth shall be provided so that the sewer laterals will have a minimum cover of five (5) feet at the property line with a minimum slope of 2% from the sewer to property line, unless at end of cul-de-sacs.

The minimum cover over the top of force mains shall be 42-inches from the finished road grade.

3. Sewer Materials: Unless otherwise authorized by District, all sewers shall be constructed of the following materials:

Residential Sewers: PVC (SDR 35) for depth of cover 15 feet or less,
PVC (C900 or C905) for depth of cover over 15 feet.

or

VCP (extra strength or high strength)

Commercial/Industrial: PVC (C900 or C905), unless DIP required by District

Force Mains: up to 12-inch diameter - PVC (C900), Class 200 minimum (residential force main only)

All diameters greater than 12-inches - ductile iron pipe

4. Pipe Slope: Gravity sewers shall have the following minimum slope:

<u>Diameter (Inches)</u>	<u>Slope (ft / 100 ft)</u>
8	0.40
10	0.30
12	0.24
15	0.18
18	0.11
21	0.10
24	0.08
27	0.07
30	0.06
33	0.044
36	0.040
42	0.032

Minimum slope out of a cul-de-sac or where less than 10 EDUs are connected is 2%. Minimum slope where 10 to 40 EDUs are connected is 1%.

Minimum slope of forcemains shall be 0.5% unless otherwise authorized by District. Air valves shall be located at all high points of force mains. Minimum size of air valves shall be 1-inch and shall be sized per manufacturers recommendation.

Blowoffs shall be located at all low points of the forcemain. Minimum size of Blowoffs shall be 4-inches. Consult with District staff regarding size.

5. Manholes: Manholes shall be spaced at 300 foot maximum intervals and at all grade breaks, changes in horizontal alignment, changes in sewer diameter, and at the end of all sewers. Drop manholes are NOT allowed without special review and approval by the District Engineer.

Manhole rim elevations shall be lower than all pad elevations immediately down stream. If this condition cannot be met, then back flow prevention valve must be installed in accordance with the plumbing code (Section 409-a). A list of the affected lots shall be prepared by the Design Engineer and submitted to the contractor/developer/owner with a carbon copy to the District Engineer.

Drop of elevation through manholes shall be 0.10 foot. At right angle alignment or bend drop shall be 0.20 foot.

Pre-cast concrete manholes shall be used. Standard 4-foot structures with 2-foot frame and cover shall be called out on the plans where the depth of manhole measured from the flow line to the rim is less than 12-feet, and pipe diameters are less than or equal to 10-inches. Manholes shall be 5-feet in diameter with 3-foot frame and two piece cover under the following conditions;

- a. Depth of the structure from the top of pipe to the rim is equal to or greater than 12-feet.
- b. Sanitary sewer main diameter is 12-inch or greater.

Manhole Lining: For 1) all new manholes on sewers 15-inches or greater in diameter, 2) all new manholes where the entering pipe slope is 5% or greater, 3) all existing manholes with new connections, and 4) all manholes within 1,000 feet of receiving a force main discharge; the manholes shall be provided with Integrally Locking PVC or Polyurethane Protective Lining System per Section 500-2 of the Greenbook.

6. Sewer Laterals: Sewer laterals shall have a minimum diameter of 4" and shall be constructed of the same materials as the sewer. Lateral minimum size for commercial and industrial shall be 6-inch. Each building shall have a separate lateral. Laterals shall have a minimum slope of 2 % and shall have a minimum cover of 5' at the property line. Laterals shall be below the water main with a minimum clearance of 12-inches. Where clearances are critical, and laterals designed to clear the waterline, they shall be detailed on the plans. Laterals shall not enter a manhole. Laterals must have 10-foot separation from water service. Bends are not allowed in laterals without the approval of the District Engineer. Only when bends are approved, they shall be provided with cleanouts at each approved bend.

7. Sewer Curves:

- a. Curvilinear alignments for sanitary sewers shall be specifically requested by the Engineer associated with the project. The request shall include all data (calculations and preliminary plan layouts) needed to evaluate the design of the sewer system.
- b. All curvilinear sanitary sewers shall be designed within the street right-of-way and concentric with the radius of horizontal curves. In no case shall horizontal curvilinear alignments be allowed outside dedicated street right-of-ways. Poor construction techniques resulting in deflection of a straight sewer shall not be accepted as a curvilinear sewer.
- c. Both horizontal and vertical curvilinear sewers may be used. However, vertical curves shall not be permitted in the same reach with horizontal curves.

Curvilinear alignments shall not be permitted in sanitary sewers carrying commercial and industrial wastes, except with the specific approval of the District Engineer.

- e. The use of curvilinear alignments shall be prohibited in areas of potential root growth except with the specific approval of the District Engineer.

- f. Manholes shall be required for all changes in direction, both horizontal and vertical, and for all changes in the radius of curvature.
 - g. The minimum radius of curvature for VCP shall be 200', providing that the deflection shall not exceed ASTM C-425. The minimum radius of curvature for PVC shall be 280'.
 - h. All bedding material shall be sand (sand equivalency = 30) unless otherwise required or approved by the District Engineer and comply with Lee Lake Water District Standard Drawing, S-1.
 - i. Inspection of all curvilinear sewers shall be requested a minimum of seven (7) days before the start of construction.
 - j. All reaches containing curvilinear alignments shall be televised after all other testing of the sanitary sewers is complete. Televising shall include a visual identification of each reach and a continuous display of the distance from the entry manhole. All video equipment needed to review the televised sewer shall be furnished by the developer. Alternatively, the District may contract for the televising of curved sewers and require the developer to bear all costs incurred.
8. Easement Criteria: Sewers not located within public right-of-way must be located in easements granted to the District on the District's Grant of Easement form. Easements shall be a minimum of 20-feet in width unless otherwise specified (see Section II, 5c). Details for grant of easement documents are included in Section IV, Construction Drawing Preparation.

SECTION IV
CONSTRUCTION DRAWING PREPARATION

A. GENERAL

Engineer shall prepare sewer system improvement drawings that are clear, concise, and meet District standards.

Drawings shall be plotted on D size mylar sheets (24" x 36") with Lee Lake Water District approval block.

The drawings shall be professional quality drawings especially prepared as SEWER DRAWINGS or WATER AND SEWER DRAWINGS. Work shall be of standard engineering practice and shall be legible and present the proposed construction without confusion. The drawings shall be signed by a California Registered Civil Engineer.

Water and sewer design may be shown on the same drawings if the drawings are clear and concise. The District shall be the sole judge as to when separate drawings are necessary.

B. COVER SHEET

The cover sheet shall show as a minimum:

1. General notes (Appendix "D")
2. Legend (Appendix "E")
3. Estimate of quantities (Appendix "E")
4. Approval for Construction Box (Appendix "F")
5. Sewer System Certification (Appendix "F")
6. Index of Drawings
7. Vicinity Map
 - a. Scale
 - b. North Arrow
 - c. Street Names
 - d. Title and Location of Project
8. Index Map
 - a. Scale
 - b. North Arrow
 - c. Tract Layout with Street Names and Lot Numbers
 - d. Proposed Sewers Identified by Size and Type
 - e. Symbols for all Appurtenances
 - l. Manholes

2. Sewer Laterals
 3. Clean-outs
 4. Valves, Air Valves, and Blowoffs for Forcemains
- f. Sheet Numbers Corresponding to Plan and Profile Sheets

The use of a second sheet to include all information is permissible.

C. PLAN AND PROFILE SHEETS

The plan/profile sheets shall be drawn at a horizontal scale of 1" = 40' and a vertical scale of 1" = 4', and as a minimum the drawings shall show the following:

PLAN PORTION

1. Title Block: Title block shall show Tract No. and scale of drawings. District approval blocks shall be incorporated into the title block.
2. North Arrow: North arrow shall point up or to the left if possible to conform with Item 11.
3. Right-of-Way: Existing and proposed right-of-way shall be identified with dimensions for same shown.
4. Curb Separation: Existing and/or proposed curb separation shall be identified with dimensions for same shown.
5. Easements: Existing or proposed easements shall be identified with dimensions for same shown.
6. Street Names: All street names shall be shown.
7. Lot Lines: All lot lines and parcel lines shall be shown. All lots shall be numbered or labeled. All adjacent tracts shall be identified.
8. Utilities: All existing and proposed Utilities shall be shown. Utilities to be shown shall include, but not be limited to, sewer (existing sewers shall be identified by District Plan No.), water, gas, power, telephone, storm drain, irrigation, traffic, and cable television. Each utility shall be identified with a symbol and the size of the utility shall be shown.
9. Existing and Proposed Improvements: All existing surface improvements shall be shown including, but not limited to, curb and gutter, edge of pavement, power poles, driveways, sidewalks, and fences.
10. Match Lines: Match lines for each end of the street shall be shown as follows:
Sta 15+00.00 Match Line
See Sheet 5
11. Stationing: Stationing along the centerline of the improvement shall be shown. Only stationing along centerline of improvement (right-of-way) may be used unless otherwise allowed by District Engineer. Unless otherwise specified,

station shall increase from left to right and uphill. Stationing shall be identified with tick marks at 100 foot intervals.

12. Proposed Sewer: Proposed sewer shall be indicated with a heavy line. Dimensions from street centerline to centerline of pipeline shall be shown. Pipeline shall be identified as:

_____ " VCP (High strength or Extra Strength) Sewer

OR

_____ "PVC (SDR 35) Sewer

OR

_____ "PVC C900 DR18 Sewer

OR

_____ "PVC C905 DR18 Sewer

OR

_____ "PVC C900 Class ____ Force Main

13. Appurtenances: All sewer appurtenances including manholes and clean-outs shall be identified by station and Lee Lake Water District Standard Number as follows:

Sta 12+25.00 Manhole No. 1 per LLWD Std. Dwg. No.

All sewer laterals shall be indicated on the drawings. The stationing of laterals is not required on the drawings, however, after construction of proposed facilities, the engineer shall provide the District with an "as-built" stationing table of the laterals on the record drawings.

All connections to existing sewer system shall be identified by station and size. A station equation and District plan number shall be used to reference existing sewers. Details for connections shall be used where required.

PROFILE PORTION

Only profiles for water and sewer shall be shown. All other utility profiles shall not be shown unless conflicting or where crossing over or under (i.e. storm drain).

1. Stationing: Stations shall be shown along bottom of profile at 100 foot intervals. Profile stationing shall line up with plan stationing.
2. Elevations: Elevations shall be shown on both ends of the profile sheet.
3. Existing and Proposed Ground Surface: Existing ground surface or pavement over the proposed sewer shall be identified as follows:

"Existing Top of Pavement (or ground surface) over Centerline of Sewer"

Copies of Grant of Easement form and plat are shown in Appendix "H". Items to be included on the plat map are shown in said appendix.

SECTION V
PROCEDURES
SEWER SYSTEM
FACILITY CONSTRUCTION

All sewer facility projects will be constructed by Developer and inspected by District inspectors. Work performed without the knowledge or the observation of a District inspector will not be accepted. The steps required to obtain approval of construction of sewer facilities are as follows:

1. Submit Customer Service Application and Inspection Deposit.
2. Provide Submittals, Sewer System Construction Agreement, Bonds, and Certificate of Insurance.
3. Attend Preconstruction Meeting.
4. Notify District Regarding Construction Start.
5. Construct Sewer System Facilities.
- b. Pressure Test Sewer System Facilities.
7. Pay any Remaining Fees and Charges.
8. Provide Unconditional Lien Waiver and Release, Sewer System Grant Deed, and Record Drawings.
9. Notice of Completion Filed by District.
10. Connect to Existing Sewer System.

A flowchart for sewer system facility construction is shown as Exhibit "I". A construction status sheet to be used by District is shown in Appendix "J". Each required step is discussed in detail below:

1. Submit Sewer Service Application and Inspection Deposit: The sewer service application (available from the District) shall be completed and filed with the District staff. A copy of the sewer services application is shown in Appendix "C". The inspection deposit and three copies of approved sewer construction drawings shall be submitted with the completed application.
2. Construction Submittals:
 - a. Developer/Contractor shall provide three copies of proposed materials for completion of the project (see Approved Materials List within the Lee Lake Water District Standard Drawings).
 - b. District Engineer reviews submittals and returns submittal with redline corrections, if necessary, to Developer/Contractor.

- c. Submittal process shall be repeated as necessary until all materials are approved by District Engineer.
2. Provide Sewer System Construction Agreement, Bonds and Certificate of Insurance: Developer shall submit to District staff the following:
 - a. Contractor information sheet (Appendix "K").
 - b. Two copies of Encroachment Permits.
 - c. One copy of recorded tract/parcel map showing dedication of streets for road and public utility purposes (not required if executed Grant of Easement provided earlier).

After District executes Sewer System Construction Agreement (Appendix "L"), approves Contractor, and approves materials list, Developer shall submit the following:

- a. Copy of the Contract between Developer and Contractor verifying cost of sewer system facility construction.
- b. Certification of streets to final grade (Appendix "M").
- c. Certificates of Insurance for Contractor (Appendix "N").
- d. Faithful Performance Bond (Appendix "O"). Performance bonds provided to the City/County are satisfactory if the facilities to be turned over to the District are included.

After District reviews and approves all submittals, District staff will issue a Notice to Proceed.

Thereafter, Developer shall schedule a preconstruction meeting with District staff. A one week notice is required prior to said preconstruction meeting.

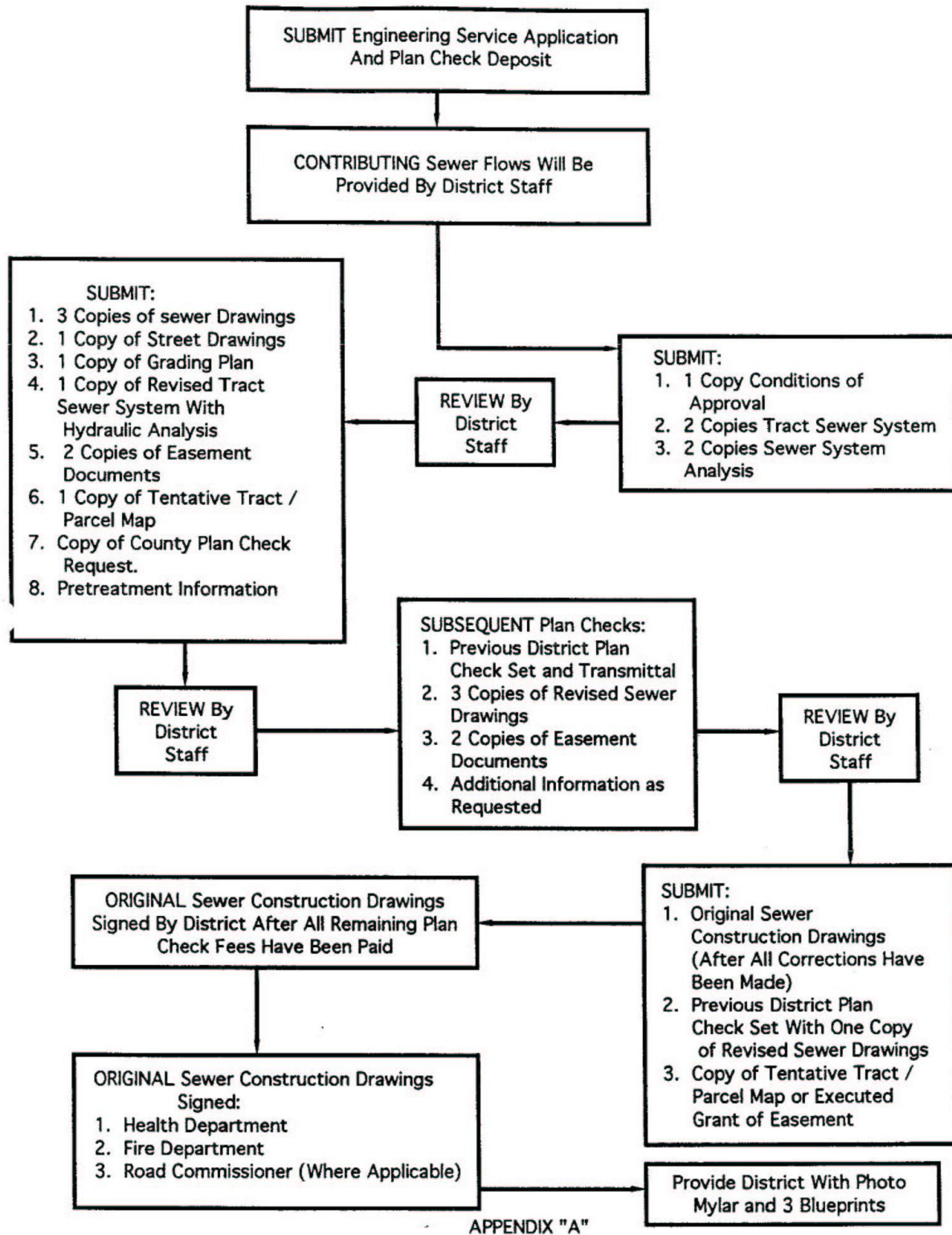
3. Attend Construction Meeting: Preconstruction meeting shall be held at the District office and shall be attended by Developer's representative, Developer's contractor, and construction superintendent as well as by District staff.
4. Notify District Regarding Construction Start: Contractor shall notify District, in writing, a minimum of 1 week prior to construction start. Prior to construction, Contractor shall submit three copies of the construction cut sheets for Districts use during construction. Sewers shall be staked at 25 foot intervals and at all sewer laterals, manholes, cleanouts, and grade breaks.
5. Construct Sewer System Facilities: The sewer system facilities shall be constructed by Developer's contractor and inspected by District inspectors. After completion of construction, Developer's contractor shall complete all items on District's inspection list prior to testing sewer facilities.

6. Test Sewer System Facility: After sewer facilities are completed to satisfaction of District inspector including all items on inspector's construction deficiencies list, and after Contractor furnishes evidence that compaction of trenches has been completed to the satisfaction of the County of Riverside Road Department, Contractor shall test the sewer facility in accordance with District Standards.
7. Pay Any Remaining Fees and Charges: Any remaining fees and charges must be paid in full.
8. Provide Unconditional Lien Waiver and Release Sewer System Grant Deed and Record Drawing

Before District will allow removal of sewer plugs, Contractor shall:
 - a. Provide Unconditional Lien Waiver and Release for sewer construction (Appendix "P").
 - b. Provide Grant Deed dedicating sewer system to District. Said Grant Deed is effective only after final Notice of Completion for sewer system facilities is filed by District staff. Grant Deed must be filed on form provided by District (Appendix "Q").
 - c. Provide Sewer system record ("As-Builts") drawings.
9. Notice of Completion Filed District: After receipt, and approval of items in Section 8, District will file Notice of Completion.
10. Connect to Existing Sewer System: After Notice of Completion has been filed by District, District will notify Contractor that he may connect sewer facilities to existing sewer facility system by removing sewer plugs.

APPENDIX A
FLOWCHART FOR CONSTRUCTION
DRAWING APPROVAL

FLOWCHART FOR CONSTRUCTION DRAWING APPROVAL



APPENDIX "A"

APPENDIX B
PLAN CHECK STATUS SHEET

**LEE LAKE WATER DISTRICT SEWER
SYSTEM FACILITY REQUIREMENTS**

PLAN CHECK STATUS SHEET

LLWD JOB NO. _____

TRACT NO. _____

PARCEL MAP NO. _____

NAME OF PROJECT: _____

DEVELOPER: _____

LOCATION OF PROJECT: _____

ENGINEER: _____

PHONE: _____

ITEM	DATE	INITIAL
1. Received Engineering Service Application and Plan Check Deposit (Engineer)	_____	_____
2. Provide Contributing Sewer Flows (District)	_____	_____
3. Received:		
- Pretreatment Information	_____	_____
- One Copy of Conditions of Approval (Engineer)	_____	_____
- Two Copies of Tract Map with Proposed Sewer System Including Manholes (Engineer)	_____	_____
- Two Copies of Sewer System Analysis of Proposed System (Engineer)	_____	_____
4. Review Item 3 and Provide Comments (District)	_____	_____
5. Received First Plan Check (Engineer):		
- Three Copies of Sewer/Water Construction Drawings	_____	_____
- One Copy of Street Improvement Drawings	_____	_____
- One Copy of Grading Plan	_____	_____
- One Copy of Revised Tract Map with Sewer System Analysis	_____	_____
- Two Copies of Easement Documents	_____	_____
- One Copy of Tract/Parcel Map	_____	_____
- Copy of City/County Plan Check Receipt	_____	_____
6. Review First Plan Check, Provide Comments (District)	_____	_____
7. Received Second Plan Check (Engineer):		
- Previous District Plan Check Set and Transmittal	_____	_____
- Three Copies of Revised Sewer Construction Drawings .	_____	_____
- Two Copies of Easement Documents	_____	_____
- Copies of Additional Information as Requested	_____	_____

- | | | | |
|-----|--|-------|-------|
| 8. | Review Second Plan Check, Provide Comments (District): | _____ | _____ |
| 9. | Received Third Plan Check (Engineer): | | |
| | - Previous District Plan Check Set and Transmittal | _____ | _____ |
| | - Three Copies of Revised Sewer Construction Drawings | _____ | _____ |
| | - Two Copies of Easement Documents | _____ | _____ |
| | - Copies of Additional Information as Requested | _____ | _____ |
| 10. | Review Third Plan Check, Provide Comments (District) | _____ | _____ |
| 11. | Received Original Construction Drawings for Signature (Engineer) | _____ | _____ |
| | - Previous District Plan Check Set and One Copy of Revised Sewer Construction Drawings | _____ | _____ |
| | - All Remaining Plan Check Fees Paid | _____ | _____ |
| | - Copy of Tentative Tract/Parcel Map or | _____ | _____ |
| | - Executed Grant of Easement | | |
| 12. | Construction Drawings Signed (District) | _____ | _____ |
| 13. | Received One Set of Photo Mylars and Three Sets of Construction Drawings (Engineer) | _____ | _____ |

APPENDIX C
REQUEST FOR SEWER SERVICES APPLICATION

LEE LAKE WATER DISTRICT
Request for Sewer Services Application

Work Order # _____

Applicant's Name and Address:

Name	
Street Address	Telephone ()
City	State

Owner/Responsible Party Name and Mailing Address:

Name	
Street address	Telephone
City	State

Services Required:

<input type="checkbox"/> Sewer Service <input type="checkbox"/> Street <input type="checkbox"/> Easement <input type="checkbox"/> New Lateral <input type="checkbox"/> Exist. Lateral <input type="checkbox"/> Main Line extension	
<input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Size: (Circle one) 4" 6" 8"	
<input type="checkbox"/> Plan Check	<input type="checkbox"/> Inspection of Pipeline
<input type="checkbox"/> Feasibility Study	<input type="checkbox"/> Pipeline Extension <input type="checkbox"/> Will Serve (Sewer Availability) <input type="checkbox"/> Other

Location Where Services are Required:

APN	Street #/Name
Depth of Lateral	Location of Lateral
Other Location Information	

Calculation of Costs:

Sewer Service Fees:				
		Reimbursement Agreements		\$
		Other		\$
Plan Check Deposit:	\$	Processing Fee + \$	1 st 1,000 Ft. + \$	addit'l footage \$
Inspection Deposit:	\$	Processing Fee + \$	1 st 1,000 Ft. + \$	addit'l footage \$
Other Fees:		Temporary Service Agreement		\$
		Annexation		\$
		Other:		\$
				\$

Cust. Acct. Type	Cust. Act. No.	TOTAL DUE:	\$
Total Received \$	Check #		

CUSTOMER RECEIPT

APPENDIX "C"

APPENDIX D
GENERAL CONSTRUCTION NOTES

**LEE LAKE WATER DISTRICT
GENERAL CONSTRUCTION NOTES**

1. CONSTRUCTION NOTES

- A. CONTRACTOR SHALL FURNISH AND INSTALL ALL FACILITIES IN ACCORDANCE WITH LEE LAKE WATER DISTRICT (LLWD) WATER SYSTEM FACILITY REQUIREMENTS, STANDARD SPECIFICATIONS AND STANDARD DRAWINGS. LLWD STANDARD SPECIFICATIONS AND STANDARD DRAWINGS ARE AVAILABLE AT THE DISTRICT OFFICE. CONTRACTOR SHALL BE IN POSSESSION OF DISTRICT'S SPECIFICATIONS AND STANDARD DRAWINGS ON THE JOB SITE AT ALL TIMES.
- B. ALL PERMITS REQUIRED BY LAW SHALL BE ACQUIRED BY THE APPLICANT OR THEIR CONTRACTOR AND ARE MADE PART OF THE SPECIFICATIONS.
- C. THE DRAWINGS AND DATA HEREON ARE HEREBY MADE PART OF THE SPECIFICATIONS.
- D. REVISIONS WILL NOT BE MADE TO THESE PLANS WITHOUT THE APPROVAL OF LLWD.
- E. APPROVAL OF THESE PLANS BY LLWD DOES NOT CONSTITUTE A REPRESENTATION OF THE ACCURACY OF THE LOCATION OR EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF WORK.
- F. CONTRACTOR SHALL NOTIFY THE LLWD ONE WEEK PRIOR TO STARTING CONSTRUCTION.
- G. THE LLWD INSPECTOR SHALL BE FURNISHED THREE SETS OF PROJECT DRAWINGS.
- H. THE CONTRACTOR SHALL CONFORM TO CURRENT CAL OSHA SAFETY REQUIREMENTS.
- I. THE CONTRACTOR SHALL SUBMIT TO THE LLWD A SOILS REPORT BY A QUALIFIED GEOTECHNICAL ENGINEER WHICH CERTIFIES THAT ALL TRENCH BACKFILL WAS COMPACTED AS DIRECTED BY THE SOILS ENGINEER IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND LLWD SPECIFICATIONS.
- J. EACH LOT SHALL BE SERVICED WITH A FOUR (4)-INCH SEWER LATERAL SET AT A MINIMUM GRADE OF 2.0% WITH A MINIMUM INVERT DEPTH OF 5.0 FEET BELOW THE BOTTOM OF THE CURB AT THE PROPERTY LINE, UNLESS OTHERWISE APPROVED BY THE LLWD.

- K. ALL LATERALS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS, ADJUSTED UNDER LLWD INSPECTION TO CLEAR DRIVEWAYS AND OTHER IMPROVEMENTS. LATERALS SHALL BE FOUR (4)-INCH MINIMUM DIAMETER UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL LATERALS SHALL HAVE A CLEAN OUT IN ACCORDANCE WITH STANDARD DRAWINGS NO. S-9 AND S-30. LATERALS SHALL BE INSTALLED IN ACCORDANCE WITH LLWD STANDARD DRAWING NOS. S-4, S-5, S-6, AND S-7.
- L. JOB-MIXING OF CONCRETE IS NOT PERMITTED.
- M. ALL CONCRETE TESTING REQUIRED BY THE LLWD WILL BE AT THE EXPENSE OF THE CONTRACTOR.
- N. THE CONTRACTOR SHALL SECURE APPROVAL FROM THE LLWD INSPECTOR PRIOR TO BACKFILLING OVER ANY SEWER PIPE OR WYE.
- O. ALL SEWER LATERALS AND MAINS SHALL BE TESTED BY "AIR TEST METHOD" AFTER CONSTRUCTION AS SPECIFIED BY THE LLWD SPECIFICATIONS.
- P. ALL ACCESS HOLES (MAN HOLES) SHALL BE TESTED BY "VACUUM TESTS" AS SPECIFIED IN THE LLWD STANDARD SPECIFICATIONS.
- Q. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION REQUESTING A SYSTEM SHUTDOWN FOR CONNECTIONS TO EXISTING SYSTEM. SAID NOTIFICATION SHALL BE OF THREE WEEKS PRIOR TO SAID SHUTDOWN TO THE LLWD DISTRICT ENGINEER.
- R. CONTRACTOR SHALL DESIGNATE A QUALIFIED SUPERINTENDENT WITH FULL AUTHORITY TO ACT ON BEHALF OF THE CONTRACTOR. SAID SUPERINTENDENT SHALL BE ON THE JOB SITE AT ALL TIMES.
- S. CONTRACTOR SHALL PERFORM ALL WORK UNDER RIVERSIDE COUNTY ROAD DEPARTMENT JURISDICTION IN ACCORDANCE WITH ALL REQUIREMENTS OF SAID DEPARTMENT INCLUDING TRAFFIC CONTROL, PAVEMENT REMOVAL, TEMPORARY PAVEMENT (INCLUDING BASE MATERIAL) AND TEMPORARY AND PERMANENT TRAFFIC STRIPPING.
- T. ALL MATERIALS, TESTING, AND INSPECTION OF THE SEWER SHALL BE IN CONFORMITY WITH THE REQUIREMENTS OF LLWD AND RIVERSIDE COUNTY STANDARDS. FAILURE TO MEET ANY REQUIREMENTS OF THE ABOVE REFERENCED AGENCIES WILL BE CAUSE FOR REJECTION.
- U. SEWER SHALL BE _____-INCH PVC (SDR 35) OR _____-INCH PVC C900 OR C905 (REQUIRED FOR SEWER DEPTH>15-FEET) IN ACCORDANCE WITH LLWD SPECIFICATIONS AND STANDARDS.
- V. FORCE MAINS SHALL BE _____-INCH PVC IN ACCORDANCE WITH LLWD SPECIFICATIONS AND STANDARDS (PROVIDE FORCE MAIN DIAMETER, C900 OR C905, AND PIPE CLASS 200 OR GREATER).

- W. STANDARD MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH LLWD STANDARD DRAWING NO. S-12. TERMINUS TYPE MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH LLWD STANDARD DRAWING NO. S-13.
- X. STANDARD MANHOLE COVERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH LLWD STANDARD DRAWING NO. S-14 AND S-15. IN UNPAVED AREAS LOCKING TYPE MANHOLE COVERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH LLWD STANDARD DRAWING NO. S-17.
- Y. SEWER BEDDING, BACKFILL, CAPS, AND ENCASEMENT, CAPS SHALL BE IN ACCORDANCE WITH LLWD STANDARD DRAWING NO. S-1, S-2, AND S-3.
- Z. CONTRACTOR SHALL PROVIDE AND BEAR THE TOTAL COST OF CLOSED CIRCUIT VIDEO INSPECTION OF ALL NEW INSTALLED PIPELINES UNLESS OTHERWISE DIRECTED BY THE DISTRICT INSPECTOR.
- AA. PRIOR TO POURING OF MANHOLE BASE, CONTRACTOR SHALL INSTALL A MANHOLE ADAPTER MADE BY GPK PRODUCTS, INC FOR ALL INLET(S) AND OUTLET AT THE PROPER GRADE AND DIRECTION.
- BB. EACH MANHOLE SHALL BE VACUUM TESTED IMMEDIATELY AFTER ASSEMBLY AND PRIOR TO BACKFILLING BY THE CONTRACTOR. AFTER THE CONTRACTOR COMPLETES BACKFILLING AND PRIOR TO ACCEPTANCE BY THE DISTRICT, EACH MANHOLE SHALL BE RE-TESTED IN THE PRESENCE OF THE DISTRICT INSPECTOR.
- CC. NO GROUT SHALL BE PLACED IN THE HORIZONTAL JOINTS BEFORE TESTING.
- DD. A VACUUM OF 10 INCHES OF MERCURY SHALL BE DRAWN AND THE PUMP SHUT OFF. WITH ALL VALVES CLOSED, THE MANHOLE SHALL HOLD 10 INCHES OF MERCURY FOR 60 SECONDS.
- EE. IF THE MANHOLE FAILS THE INITIAL TEST, NECESSARY REPAIRS SHALL BE MADE WITH A NON-SHRINK GROUT TO THE OUTSIDE WHILE THE VACUUM IS STILL BEING DRAWN. RETESTING SHALL PROCEED UNTIL A SATISFACTORY TEST IS OBTAINED.
- FF. MANHOLE DIAMETERS SHALL BE 48-INCH FOR SEWER DIAMETER 24-INCH AND SMALLER, AND 60-INCH FOR SEWER PIPE DIAMETER 27-INCH AND LARGER AND FOR ALL MANHOLES WITH A DEPTH OF 12-FEET OR MORE. 36-INCH CONE SHALL BE USED WITH A 60-INCH MANHOLE.
- GG. FOR 1) ALL NEW MANHOLES ON SEWER DIAMETERS 15-INCHES OR GREATER 2) ALL NEW MANHOLES WHERE UPSTREAM SEWER SLOPE IS 5% OR GREATER 3) ALL MANHOLES WITHIN 1000 FEET OF A FORCEMAIN DISCHARGE AND 4) EXISTING MANHOLES WITH NEW CONNECTIONS SHALL BE PROVIDED WITH INTEGRALLY LOCKING PVC OR POLYURETHANE PROTECTIVE LINING SYSTEM PER SECTION 500-2 OF THE GREENBOOK.

2. UTILITIES

- A. AT LEAST 48 HOURS BEFORE COMMENCING ANY EXCAVATION, CONTRACTOR SHALL REQUEST UNDERGROUND SERVICE ALERT (1-800-422-4133) AND NON-MEMBER COMPANIES, OR UTILITIES TO MARK OR OTHERWISE INDICATE THE LOCATION(S) OF THEIR SUBSURFACE FACILITIES INCLUDING, BUT NOT LIMITED TO, STRUCTURES INCLUDING VAULTS, MAIN CONDUCTORS OR CONDUITS, AND SERVICE CONNECTIONS.
- B. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL EXPOSE EXISTING FACILITIES AT PROPOSED CONNECTIONS AND CROSSINGS AND VERIFY ELEVATIONS, LOCATIONS, AND SIZE OF EXISTING FACILITIES.
- C. CONTRACTOR SHALL NOT INTERRUPT OR DISTURB ANY UTILITY FACILITY WITHOUT AUTHORITY FROM THE UTILITY. WHERE PROTECTION IS REQUIRED TO ENSURE INTEGRITY OF UTILITY FACILITIES (INCLUDING DISTRICT-OWNED UTILITIES). CONTRACTOR SHALL FURNISH AND PLACE ALL NECESSARY PROTECTION.
- D. WHENEVER A WATERLINE ENCOUNTERS A STORM DRAIN PIPE OR OTHER OBSTRUCTION AND CROSSING OVER THE OBSTRUCTION WILL RESULT IN LESS THAN 42 INCHES OF COVER OVER THE TOP OF THE WATER, THE WATERLINE SHALL CROSS UNDER THE OBSTRUCTION WITH A MINIMUM CLEARANCE OF 12 INCHES.

3. CONSTRUCTION DRAWINGS

- A. MINIMUM FORCE MAIN COVER SHALL BE 42 INCHES FROM FINISHED GROUND SURFACE. MINIMUM SEWER COVER SHALL BE 7 FEET FROM FINISHED GROUND SURFACE.
- B. SEWER FORCE MAIN PROFILE ELEVATIONS ARE TO FLOW LINE OF SEWER FORCE MAIN. SEWER MAIN PROFILE ELEVATIONS ARE TO INVERT ELEVATION OF SEWER MAIN.
- C. STATIONING FOR SEWER AND FORCE MAIN AS SHOWN ON PLAN PORTION OF DRAWINGS IS PERPENDICULAR TO CENTERLINE OF RIGHT-OF-WAY.
- D. SEPARATION BETWEEN SEWER AND WATER SHALL CONFORM TO RIVERSIDE COUNTY STANDARD NO. 817 AND LLWD STANDARD DRAWING S-23 AND LLW-33.

5. CONSTRUCTION TOLERANCES

SEWERS SHALL BE CONSTRUCTED SO THAT ACTUAL FLOW LINE ELEVATIONS ARE WITHIN 0.02 FOOT OF DESIGN FLOW LINE ELEVATIONS. FORCE MAINS SHALL BE CONSTRUCTED SO THAT ACTUAL FLOW LINE ELEVATIONS ARE WITHIN 0.1 FOOT OF DESIGN FLOW ELEVATIONS. SEWERS,

WHEN INSTALLED, SHALL HAVE CONTINUOUS DOWN SLOPE. FORCE MAINS, WHEN INSTALLED, SHALL HAVE CONTINUOUS UPGRADE OR DOWNGRADE, CORRESPONDING WITH DESIGN SLOPE, WITHOUT ANY HIGH SPOTS. FORCE MAINS SHALL BE CONSTRUCTED SO THAT ACTUAL PIPELINE CENTERLINES ARE WITHIN 0.1 FOOT OF DESIGN PIPELINE CENTERLINES.

SEWER AND FORCE MAIN CONSTRUCTION SHALL CONFORM WITH CONSTRUCTION DRAWINGS IN ACCORDANCE WITH THE ABOVE SPECIFIED TOLERANCES. CONTRACTOR SHALL ASSIST DISTRICT AS REQUIRED TO CONFIRM COMPLIANCE WITH CONSTRUCTION TOLERANCES. CONTRACTOR SHALL MAKE OR ASSIST IN MAKING ALL NECESSARY MEASUREMENTS AS DETERMINED BY DISTRICT.

6. INSPECTION FEE

THREE WEEKS PRIOR TO CONSTRUCTION, A DEPOSIT FOR INSPECTION FEE WILL BE MADE. THIS FEE IS ESTIMATED AT \$. SHOULD ACTUAL COSTS BE GREATER, THE BALANCE SHALL BE PAID TO THE DISTRICT BY THE APPLICANT. SHOULD ACTUAL COSTS BE LESS, THE BALANCE SHALL BE REFUNDED TO THE APPLICANT. FEES SUBJECT TO CHANGE WITHOUT NOTICE.

7. ENGINEERING FIRM

PRIOR TO SIGNING OF SEWER CONSTRUCTION DRAWINGS BY LLWD, ALL QUESTIONS CONCERNING THIS PROJECT SHALL BE DIRECTED TO:

(NAME)

(TITLE)

(FIRM)

APPENDIX E
LEGEND AND ESTIMATE OF QUANTITIES

LEGEND AND ESTIMATE OF QUANTITIES

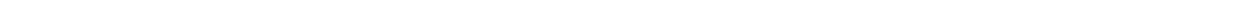
1. The Legend and Estimate of Quantities shall be included on the same sheet as the Index Map, in the following format.

<u>Quantity</u>	<u>Unit</u>	<u>Description</u>	<u>Standard Drawing Reference</u>
200	L.F.	8" PVC (SDR 35) Sewer Pipe	per S-1, & S-2

2. A separate entry is required for each size and type of all materials necessary for this project.

APPENDIX F

**CONSTRUCTION APPROVAL BOX/
SEWER SYSTEM CERTIFICATION**



APPENDIX G
SEWER CONSTRUCTION DRAWINGS CHECKLIST

LEE LAKE WATER DISTRICT

SEWER CONSTRUCTION DRAWINGS CHECKLIST

TRACT NO. _____ LLWD W.O. _____

COVER SHEET

VICINITY MAP		
Scale _____		
North Arrow		
Street Names		
Title and Location of Project		
INDEX MAP		
Scale _____		
North Arrow		
Proposed Water/Sewer Line		
Layout of Project		
Appurtenances		
Manhole		
Fire Hydrants		
Detector Checks		
Air Valves		
Blow-Offs		
Pipeline		
Quantities		
Plan Layout/Sheet Reference		
NOTES		
Sewer System Certification		
Notifications		
General Sewer Notes		
LLWD Signature Block		

LEE LAKE WATER DISTRICT
SEWER CONSTRUCTION DRAWINGS CHECK LIST

TRACT NO. _____ LLWD W.O. _____

PROFILE

SHEET NO.													
Stations at Bottom of Profile													
Elevations at Side of Profile													
Existing Ground Surface													
Proposed Finished Ground Surface or Pavement													
Match Lines (Station & Sheet Number)													
Flow line of Sewer Identified													
Stationing and Flow Line Elevations for.													
a. Manholes													
b. Grade Breaks													
c. End of Pipe													
Sewer Slopes													
Sewer Lengths													
7' Minimum Cover													
Separation from Water													

APPENDIX H
GRANT OF EASEMENT

WHEN RECORDED, MAIL TO:

LEE LAKE WATER DISTRICT
22646 Temescal Canyon Road
Corona, California 92883

NO RECORDING FEE PER GOVT CODE 6103 & 27383

APN
TRA:

TRANSACTION EXEMPT FROM DOCUMENTARY
TRANSFER TAX PER REV. & TAX CODE 11922

DEED OF EASEMENT

For valuable consideration, receipt of which is hereby acknowledged, _____, Grantor, hereby grants to LEE LAKE WATER DISTRICT, Grantee, a permanent easement and right of way for the installation, operation, maintenance, repair and replacement of a pipeline or pipelines, together with incidental appurtenances, connections and structures in, over, under, upon, along, through and across the real property situated in the County of Riverside, State of California, described on Exhibit A hereto, and as depicted on Exhibit B.

Together with the right to grade and improve said right of way and to enter upon and pass and repass over and along said strip of land for the construction, operation and maintenance, repair and replacement of the pipeline or pipelines, appurtenances, connections and structures to be constructed in said easement by the Lee Lake Water District.

It is understood and agreed that the easement and right of way hereby granted is subject to the right of the servient owner, his successors and assigns, to use the surface of the land within said easement and right of way to the extent that such use is compatible with the full and free exercise of said easement and right of way by the Lee Lake Water District; provided however, that no trees, vegetation, fences, block walls, or other structures or other improvements shall be constructed upon, across or over said easement and right of way, nor shall owner place or maintain any fill or paving of any nature over the surface of the easement, nor remove any earth from the cover of said pipeline or other facility after construction.

DATED: _____

Company Name

A _____ Corporation

By: _____
Name

PLAT REQUIREMENTS

1. North Arrow
2. Subdivision Title With Recording Data
3. Lot of Parcel #'s
4. Street Names
5. Right-Of-Way Widths
6. Townships, Sections and Ranges
7. All Distances, Bearings and References Stated With Legal Description
8. Point Of Beginning
9. Bold and Distinct Line Around Proposed Easement
10. Scale
11. RCE / LS Signature and Stamp

LEE LAKE WATER DISTRICT

This Plat Is solely An Aid In Locating The Parcel(S) Described In The Attached Document.
It Is Not A Part Of The Written Description Therein.

SHEET

EXHIBIT

PREPARED BY:

SUBJECT:

OF _____ SHEET(S)

SCALE: 1"= _____ DRAWN BY: _____ DATE: _____ CHECKED BY: _____

W.O.# _____

PLAT REQUIREMENTS

1. North Arrow
2. Subdivision Title With Recording Data
3. Lot of Parcel #'s
4. Street Names
5. Right-Of-Way Widths
6. Townships, Sections and Ranges
7. All Distances, Bearings and References Stated With Legal Description
8. Point Of Beginning
9. Bold and Distinct Line Around Proposed Easement
10. Scale
11. RCE 1 LS Signature and Stamp

This Plat Is solely An Aid In Locating The Parcel(S) Described In The Attached Document. It Is Not A Part Of The Written Description Therein.

LEE LAKE WATER DISTRICT

EXHIBIT

PREPARED BY:

SUBJECT:

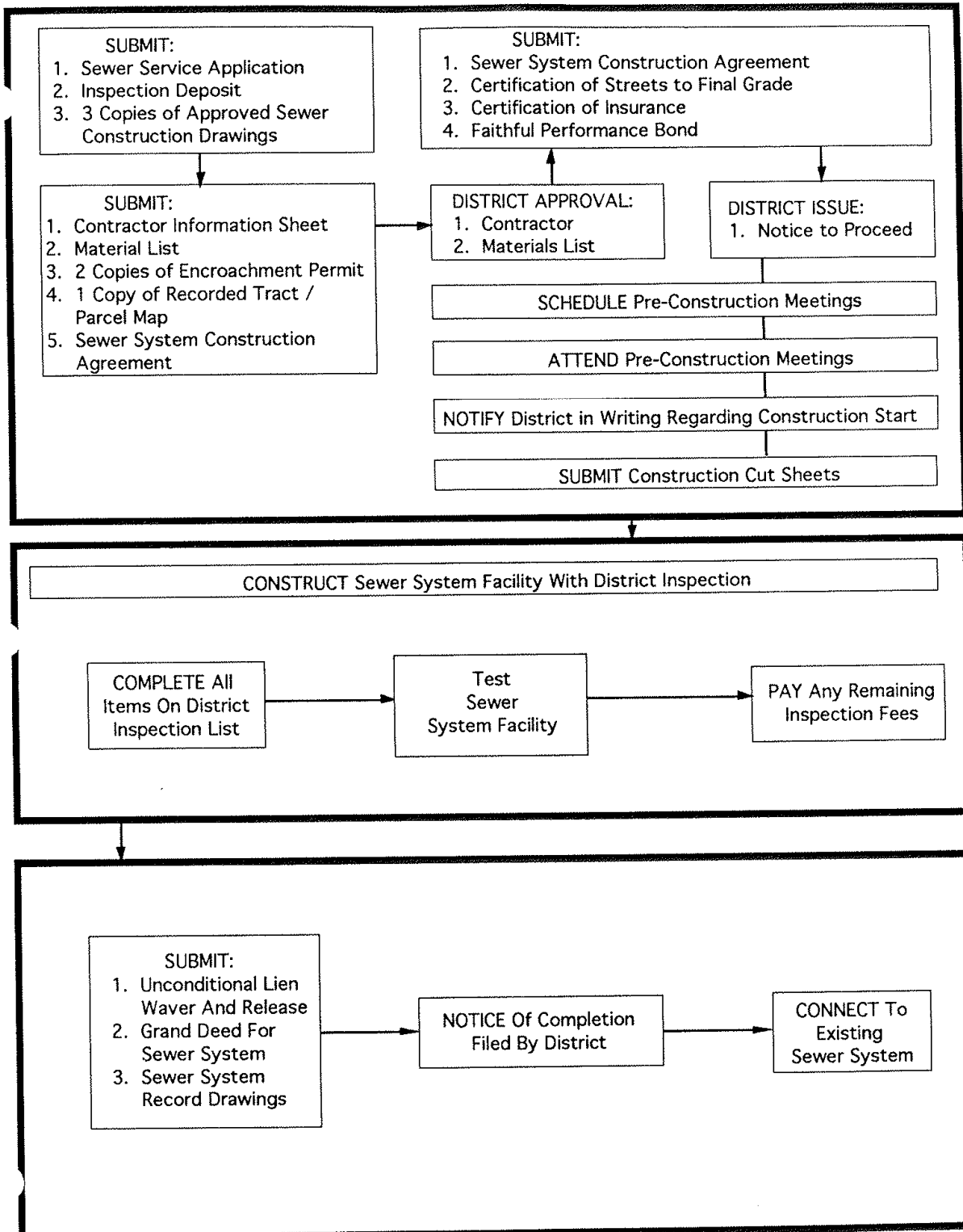
SHEET

OF ____ SHEET(S)

SCALE: 1"= _____ DRAWN BY: _____ DATE: _____ CHECKED BY: _____ W.O.# _____

APPENDIX I
FLOWCHART FOR CONSTRUCTION OF SEWER FACILITIES

FLOWCHART FOR CONSTRUCTION OF SEWER FACILITIES



APPENDIX "I"

APPENDIX "J"
CONSTRUCTION STATUS SHEET

CONSTRUCTION STATUS REPORT

LLWD Job No. _____ Inspector _____

Location: _____

Developer: _____

Contractor: _____

RECEIVED	APPROVED	SUBMITTED
_____	_____	Engineering Service Application
_____	_____	Inspection Deposit
_____	_____	Approved Sewer Construction Drawings (3 Sets)
_____	_____	Contractor Information Sheet
_____	_____	Materials List
_____	_____	Encroachment Permit (2 Copies)
_____	_____	Recorded Tract/Parcel Map (1 Copy)
_____	_____	Sewer System Construction Agreement
_____	_____	Contract for Water System Construction
_____	_____	Certification of Streets to Final Grade
_____	_____	Certificates of Insurance
_____	_____	Faithful Performance Bond

DATE	
_____	Notice to Proceed issued by District
_____	Preconstruction Meeting Conducted
_____	Received Cut Sheets
_____	Installed Sewer and all Appurtenances
_____	Completed all Items on Inspectors Deficiency List

DATE

_____ Received County Compaction Tests Sign-off

_____ Tested Sewer System

_____ All Remaining Fees and Charges Paid

RECEIVED APPROVED SUBMITTED

_____ _____ Unconditional Lien Waiver and Release

_____ _____ Sewer System Grant Deed

_____ _____ Record Drawings

DATE

_____ Filed Notice of Completion

_____ Connection(s) to Existing System Completed

APPENDIX K
CONTRACTOR INFORMATION SHEET

CONTRACTOR INFORMATION SHEET

Firm Name and Address: _____

Contractor's License No.: _____

License Class: _____

License Expiration Date: _____

Telephone No.: _____

Emergency Telephone No.: _____

Contractor's Project Manager:

Name: _____

Telephone No.: _____

Emergency Telephone No.: _____

Contractor's Superintendent:

Name: _____

Telephone No.: _____

Emergency Telephone No.: _____

Contractor's Signature: _____ Date: _____

Received: Lee Lake Water District:

By: _____ Date: _____

Contractor shall furnish three references for similar projects completed within the past three (3) years.

<u>Contract Amount</u>	<u>Type of Work</u>	<u>Date Completed</u>	<u>Owner (Name & Address)</u>	<u>Person in Charge of Project</u>	<u>Phone Number of Person in Charge</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

APPENDIX L
SEWER SYSTEM CONSTRUCTION AGREEMENT

LEE LAKE WATER DISTRICT OF RIVERSIDE COUNTY
SEWER SYSTEM CONSTRUCTION AGREEMENT (DEVELOPER
INITIATED/CONTRACTOR INSTALLED)

THIS AGREEMENT is made of this _____ day of _____, 20____, by and between LEE LAKE WATER DISTRICT OF RIVERSIDE COUNTY, A California Water District, hereinafter designated as the "District", and _____

_____ located at _____

Telephone No. _____, represented by _____ hereinafter designated as the "Developer".

WHEREAS, Developer is planning a _____ (Tract) consisting of _____ residential (commercial) lots known as _____, records of Riverside County, California, as further shown on the map attached hereto as Exhibit A, and which is hereinafter referred to as the "Development"; and

WHEREAS, said subdivision will require a sewer system to provide domestic sewer service to the Development; and

WHEREAS, Developer is desirous of having the District provide domestic sewer service to the Development and is willing to convey to the District the sewer system after the construction thereof, contingent upon the District's acceptance of such conveyance on the terms and conditions set forth herein.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. District agrees to provide domestic sewer service to the Development on the terms and conditions hereinafter provided and subject to all of the District's rules, regulations, ordinances, orders and rates.

2. Developer agrees to construct the sewer system facilities necessary for aforesaid Development in accordance with the following terms and conditions:

A. Developer will cause all of the sewer system pipelines and facilities necessary or desirable to serve the Development to be constructed at Developer's expense. The required pipelines and facilities are hereinafter referred to as the "Sewer System".

B. Developer will cause the Sewer System plans, specifications and construction drawings to be prepared at Developer's expense and submit said materials to

District for its approval which approval must be obtained prior to letting any contract or allowing construction. The plans, specifications and drawings shall fully comply with all applicable rules, regulations and ordinances of District including, but not limited to, District's "Standard Specifications on Standard Drawings for Sewer and Sewer Facilities".

C. All construction of Sewer System shall be done by qualified and properly licensed contractors. The prime contractor for the work shall be required to have a "C-34" or General Engineering "A" license and shall be experienced in the construction of domestic sewer systems. The qualifications of the prime contractor for the work must be approved by District in advance of any work being done on the system.

D. Sewer construction drawings for said Sewer System shall be approved by District prior to the presentation thereof to contractors for bidding purposes and said Sewer System shall be constructed and installed in full compliance with said approved sewer construction drawings and District specifications referenced in paragraph B above.

E. Prior to acceptance of the Sewer System by District, District will require:

- (1) Submittal to District of _____ sets of "as built" drawings.
- (2) Evidence satisfactory to District that Developer can grant the Sewer System to District free and clear of all liens, claims and encumbrances.
- (3) Evidence satisfactory to District and subject to physical inspection that the Sewer System has been constructed pursuant to the terms and conditions of this Agreement and is in good condition and repair.
- (4) A Faithful Performance Bond satisfactory to District bonding compliance with this Agreement and the terms and conditions hereof.
- (5) All fees and charges of District have been paid in full.
- (6) An unconditional lien waiver release.
- (7) Recordation of the Notice of Completion.
- (8) A form of Grant Deed of the Sewer System satisfactory to District.

F. District will not accept the Sewer System or be responsible for it in any way until District has accepted the Sewer System in writing. Any damage to the Sewer System prior to acceptance will be solely the responsibility of Developer.

G. Developer will protect all existing District Facilities in place and will immediately repair or replace any District facility damaged as a result of work or other activity in connection with the Development.

H. Developer will pay, on demand, all costs incurred by District in connection with this Agreement including, but not limited to, the cost to District of an inspector or inspectors to inspect the work in progress and the completed work for compliance with this Agreement and testing if reasonably required. All rates paid will be reasonable and in accord with local applicable rates at the time of inspection, review or testing.

3. Construction shall not begin until District issues a "Notice to Proceed". Prior to District issuing "Notice to Proceed", Developer shall submit the following:

A. Copy of contract between Developer and Contractor verifying cost of Sewer System construction.

B. Certification of streets to final grade.

C. Certificates of insurance for contractor and all subcontractors in a form satisfactory to District. The insurance company shall be rated A in the latest issue of Best's Key Rating Guide, Property-Casualty, Written by A. M. Best Company.

D. A faithful performance bond with corporate surety or sureties satisfactory to the District. The bonding company shall be rated A in the latest issue of Best's Key Rating Guide, Property-Casualty, Written by A. M. Best Company) on District form. If separate City/County bonding is required, Developer can submit approved City/County bonding in lieu of District bond. Said performance bond shall be for not less than one hundred percent (100%) of the total contract price. Said bond guarantees the completion of the Sewer System (including submission of the Unconditional Lien Waiver and Release and the Sewer System Grant Deed) and guarantees the materials and workmanship of the installed domestic Sewer System against failures of any type for one (1) year from the date of the filing of the "Notice of Completion". Said bond shall provide for the payment of all costs incurred by the District for the repair of such failures within the one (1) year guarantee period.

4. In the event construction of the Sewer System does not commence prior to _____, 20____, District may, at its option, cancel this Agreement by written notice to Developer; provided, however, that in the event such cancellation does not occur within sixty (60) days after said date, such cancellation shall require sixty (60) days' advance notice and, if construction commences during the sixty (60) day notice period, the cancellation shall not be effective.

In the event the Sewer System has not been accepted by District prior to _____, 20____, District may, at its option, cancel this Agreement upon sixty (60) days' written notice to Developer. If during the sixty (60) day notice period, Developer completes the Sewer System

and complies with the conditions precedent to acceptance of the Sewer System by District, the cancellation shall not be effective.

In the event of cancellation under this paragraph, District's obligation to accept the Sewer System and to furnish sewer service to the Development shall cease and District shall retain all amounts previously paid to District hereunder.

Nothing herein shall be construed to prevent District from accepting the Sewer System or furnishing sewer service to the Development on such other terms and conditions as District may agree.

5. Developer agrees to indemnify and save District, its employees and agents free and harmless from any and all liabilities, loss, damage or injury to persons or property arising out of or in connection with construction of the Sewer System as herein provided.

6. In the event either party brings an action in court to enforce any term, provision or condition hereof, or to recover damages for any default hereunder, the prevailing party shall be entitled to recover its reasonable attorney's fees.

7. This Agreement is not assignable by Developer without the express written consent of District. Subject to that condition, this Agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

8. Whenever in this Agreement notice is required to be given, the same shall be given by certified mail, postage prepaid, addressed to the respective parties at the following addresses:

To District: LEE LAKE WATER DISTRICT
 22646 Temescal Canyon Road
 Corona, California 92883

To Developer: _____

9. This Agreement contains all of the terms, conditions and agreements of the parties relating to the subject matter hereof and no amendment or alteration hereof shall be effective for any purpose unless contained in a writing duly executed by the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

LEE LAKE WATER DISTRICT

DEVELOPER

By: _____

Company: _____

General Managers

Date: _____

By: _____

Name: _____

Title: _____

Date: _____

APPENDIX M
CERTIFICATION OF STREETS TO FINAL GRADE

TO: LEE LAKE WATER DISTRICT

FROM: _____

(ADDRESS) _____

SUBJECT: Certification of Streets to Final Grade

Tract Map No. _____, or

Parcel Map No. _____

1. There has been executed a "SEWER SYSTEM CONSTRUCTION AGREEMENT" for the sewer mains described above; said Agreement being between:

a. The Lee Lake Water District, hereinafter designated as the "District";

b. _____
hereinafter designated as the "Developer".

All terms and conditions of said Agreement are hereby incorporated by reference.

2. Pursuant to Section 3 of said Agreement, the Developer certifies that all streets requiring sewer mains are to the required Final Grade and ready for installation of sewer mains; wherein the Final Grade shall be defined as the finished grade of the street base or sub-base required by the Riverside County Road Department, or the District.

3. Developer agrees that if there is a change required in the final grade of the street which occurs during or after the construction of the sewer mains, and requires the relocation of any sewer facilities, the Developer will make full payment for all costs necessary to relocate said sewer facilities.

Developer: _____

Address: _____

City/State/Zip: _____

Telephone: _____

Authorized Agent (sign): _____

Name (type): _____

Title: _____

APPENDIX N
CERTIFICATE OF INSURANCE

**CERTIFICATE OF INSURANCE
LEE LAKE WATER DISTRICT**

This certifies to the LEE LAKE WATER DISTRICT, located at 22646 Temescal Canyon Road, Corona, California 92883, that the following described policies have been issued to:

Insured: _____

Address: _____

Coverage is provided for the following operation(s)/location(s):

	Insurer of Policy No.	Policy Expiration Date	Limits of Liability in thousands (000) Policy Covers	
Type of Insurance			Each Occurrence	Aggregate
GENERAL LIABILITY-"Occurrence" Policies Only				
<input type="checkbox"/> Comprehensive Form		BODILY		
<input type="checkbox"/> Premises-Operations		INJURY	\$	\$
<input type="checkbox"/> Owners & Contractors Protective				
<input type="checkbox"/> Blanket Contractual		PROPERTY		
<input type="checkbox"/> Products and/or Completed Operations		DAMAGE	\$	\$
		BODILY	\$	\$
		INJURY		
		& PROPERTY		
<input type="checkbox"/> Explosion & collapse Hazard		DAMAGE		
		COMBINED		
<input type="checkbox"/> Underground Hazard				
<input type="checkbox"/> Broad Form Property Damage				
<input type="checkbox"/> Policy to include severability of interest clause				
<input type="checkbox"/> Personal Injury Exclusion "C" Removed				
		PERSONAL INJURY	\$	\$

(Coverage shall be at least as broad as Insurance Service Office Form No. GL 0002 covering Comprehensive General Liability and Insurance Service Office Form No. GL 004 covering Broad Form Comprehensive General Liability; Broad Form Comprehensive General Liability; or Insurance Service Office Commercial General Liability coverage, Occurrence Form No. CG 0001).

AUTOMOBILE LIABILITY - "Occurrence" Policies Only

<input type="checkbox"/> Comprehensive Form	BODILY INJURY (EACH PERSON)	\$
<input type="checkbox"/> Owned	BODILY INJURY (EACH OCCURRENCE)	\$
<input type="checkbox"/> Hired	PROPERTY DAMAGE	
<input type="checkbox"/> Non-owned	BODILY INJURY PROPERTY DAMAGE COMBINED	\$

(Coverage shall be at least as broad as Insurance Service Office form number CA 0001 covering automobile liability, Code 1 "any auto" and endorsement number CA 0025.)

EXCESS LIABILITY - "Occurrence" Policies Only

<input type="checkbox"/> Umbrella form	BODILY INJURY & PROPERTY DAMAGE	\$
<input type="checkbox"/> Other than umbrella form	COMBINED	
<input type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	STATUTORY	\$ (EACH ACCIDENT)

(Coverage shall be as broad as required by the Labor Code of the State of California and Employer's liability coverage.)

BUILDERS RISK (FIRE "ALL RISK") - "Occurrence" Policies Only	<input type="checkbox"/> ON 100% OF COMPLETED VALUE BASIS –	\$
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The following provisions apply:

1. The Lee Lake Water District, its officers, agents, employees, and consultants are hereby declared to be additional insureds on all of the above-mentioned described liability insurance policies, as respects the operations of the named insured at or from the premises of the Lee Lake Water District described above.

2. The above-described liability insurance policies are primary insurance and no insurance held or owned by the designated additional insureds shall be called upon or looked to in order to cover a loss under said policy; the Lee Lake Water District shall not be liable for the payment of premiums or assessments under these policies.

3. None of the above-described policies will be canceled, limited or non-renewed until thirty (30) days after receipt by the Lee Lake Water District or a written notice of such cancellation or reduction of coverage as evidenced by receipt of a registered letter.

4. The insured(s) issuing the above described workers' compensation and/or builders risk insurance policies waives all rights of subrogation against the Lee Lake Water District, its officers, agents, employees, and consultants, designated as additional insured.

5. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Lee Lake Water District, the Owner's Representative, the Engineer/Architect and their officers, agents, employees, consultants, and volunteers.

6. The named insured(s) insurance coverage shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insured's liability.

Insurance Agency: _____

Address: _____

Authorized Representative: _____

Phone: _____

Date: _____

APPENDIX O
FAITHFUL PERFORMANCE BOND

BOND NO. _____

FAITHFUL PERFORMANCE BOND

FOR

SEWER SYSTEM CONSTRUCTION AGREEMENT

KNOWN ALL PERSONS BY THESE PRESENTS: That WHEREAS, the Lee Lake Water District, has entered into a Sewer System Construction Agreement (All terms and conditions of said Agreement are hereby incorporated by reference) with _____, as Principal, (hereinafter designated as the "Developer"), for construction of:

_____ ;and

WHEREAS, said Principal is required under the terms of said Agreement to furnish a bond for the faithful performance of said contract.

NOW, THEREFORE, we, _____, as Developer, and _____ as Surety, are held and firmly bound unto the Lee Lake Water District (hereinafter called the "District"), in the sum of _____

DOLLARS (\$ _____) (this amount being not less than one hundred percent (100%) of the total price of the work), lawful money of the United States of America, for payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the hereby bonded Developer, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by and well and truly keep and perform all the undertakings, terms, covenants, and conditions in said Agreement and any alteration thereof, made as therein provided, all within the time and in the manner therein designated in all respects according to their true intent and meaning, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect until Developer has completed construction of the facilities including repair of any damage of existing

District facilities and provided District with an Unconditional Lien Waiver and Release and a Sewer System Grant Deed and has paid all fees and charges.

As a condition precedent to the satisfactory completion of the work (including submission of the Unconditional Lien Waiver and Release, submission of the Sewer System Grant Deed, payment of all fees and charges, and repair of any damage of existing District facilities), the above obligation shall hold good for a period of one (1) year after the completion of the Work and filing of the Notice of Completion by the district, during which time if Developer shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage made evident during the period of one (1) year from the date of filing of the Notice of Completion by the District, and resulting from or caused by defective materials or faulty workmanship, the above obligation in penal sum thereof shall remain in full force and effect. Notwithstanding anything in this paragraph to the contrary, the obligation of Surety hereunder shall continue so long as any obligation of Developer remains.

FURTHER, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the Agreement, or of the work to be performed thereunder, shall in any way affect its obligations on this bond; and it does hereby waive notice of any change, extension of time, alteration or modification of the Agreement or of work to be performed thereunder.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Developer and Surety named therein, on the day of ____, 20__ , the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

Developer (seal)

Name: _____

Title: _____

Signature: _____

Surety (seal)

Name: _____

Title: _____

Signature: _____

Address: _____

APPROVED AS TO FORM:

Clayson, Mann, Arend & Yeager

District Legal Counsel

By: _____

(SEAL AND NOTARIAL
ACKNOWLEDGEMENT OF SURETY)

APPENDIX P
UNCONDITIONAL LIEN WAIVER AND RELEASE

UNCONDITIONAL LIEN WAIVER AND RELEASE

DATE: _____

TO WHOM IT MAY CONCERN:

The undersigned has been paid in full for all labor, services, equipment or materials furnished to _____ ("Contractor") on the job for the Lee Lake Water District ("District") located at _____ in the County of Riverside, State of California ("Property").

The undersigned does hereby waive and release Contractor and District from any and all liability for liens for all materials delivered and labor performed by it, all Mechanic's Liens, including ones that have been recorded, Stop Notices, or any right against a Labor and Material Bond, to or for the Job and the Property on which it is located.

This Unconditional Lien Waiver and Release, materials and Labor, is made in accordance with Civil Code s3262 and s5 of the Sewer System Construction Agreement between Lee Lake Water District and Developer _____, dated _____.

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

	Firms Name
	Address
	City, State
	By: _____ Authorized Representative

APPENDIX Q
SEWER SYSTEM GRANT DEED

W.O. _____

SEWER SYSTEM GRANT DEED

FOR VALUABLE CONSIDERATION paid and received,

_____ hereby grant(s) to Lee Lake Water District all right, title and interest in the sewer system improvements for the entire sewer system facilities for the development referenced with records of the County of Riverside, State of California as _____ and agrees to indemnify the District for any and all claims, liens, causes of action or any type of liability arising from or in any way related to the construction of said facilities.

Said sewer system improvements are shown in detail on the construction drawings {Sheets _____ thru _____} for said development. This Grant Deed is in accordance with Section 5 of the Sewer System Agreement between Lee Lake Water District and dated _____, and is effective upon Developer providing the Unconditional Lien Waiver and Release and upon filing of the Notice of Completion by the District for the aforementioned sewer system improvements.

SELLERS for his heirs, executors and administrators, covenants and agrees to warrant and defend this sale of property, goods and chattels, against all and every persons claiming the same.

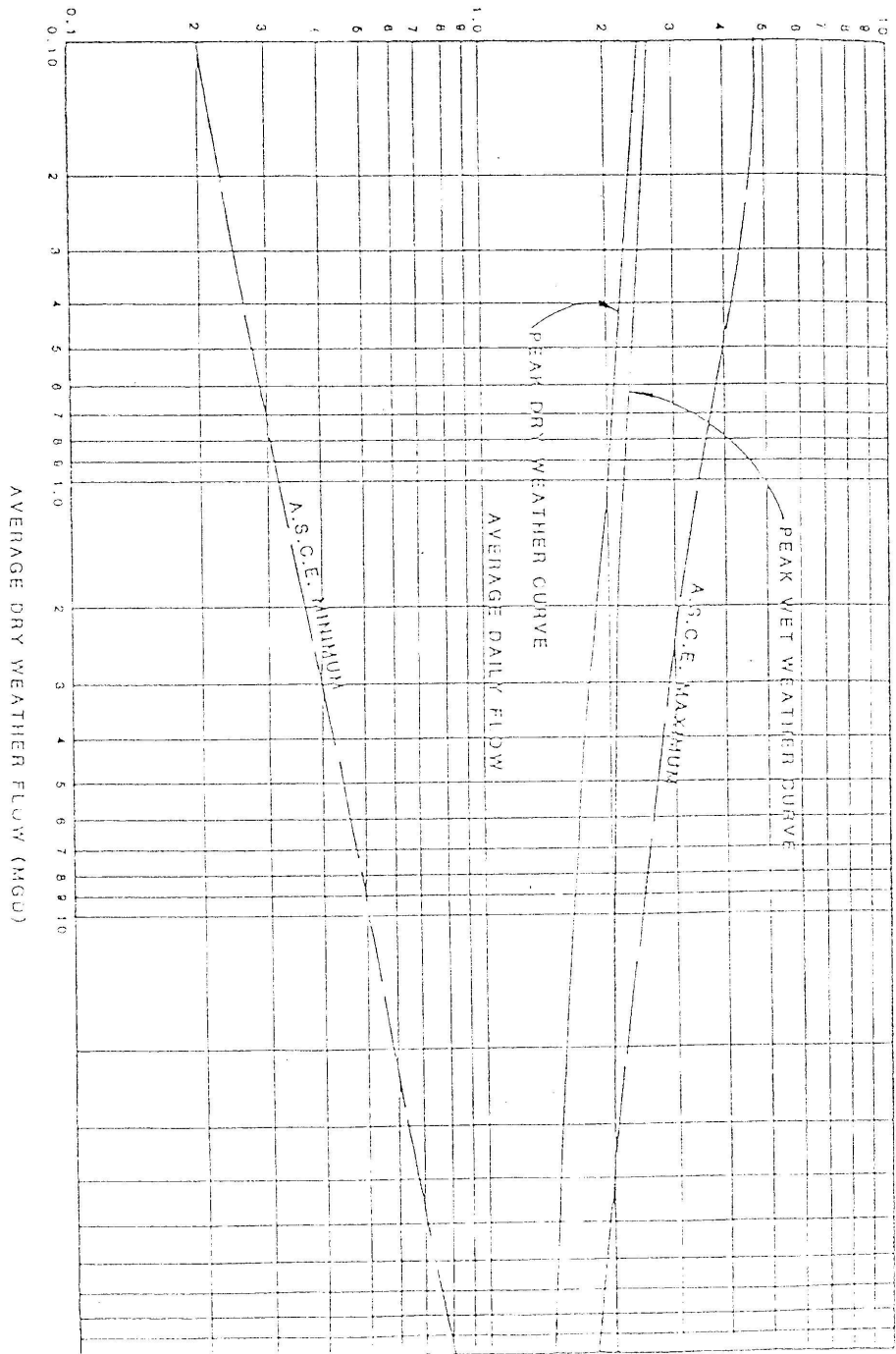
DATE: _____

BY: _____

SEAL AND NOTARIAL ACKNOWLEDGEMENT

APPENDIX R
PEAK FLOW FACTORS

PEAK FLOWRATE FACTORS
(RATIO TO AVG. DRY WEATHER FLOW)



APPENDIX "R"
PEAK FLOW FACTORS