



LEUCADIA WASTEWATER DISTRICT STANDARD SPECIFICATIONS AND PROCEDURES

APRIL 2022



LEADERS IN
ENVIRONMENTAL
PROTECTION

PREPARED BY
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**STANDARD SPECIFICATIONS
AND PROCEDURES FOR
WASTEWATER FACILITY PROJECTS**

"LWD STANDARD SPEC"

Leucadia Wastewater District

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www.lwwd.org



April 2022 Edition

LEUCADIA WASTEWATER DISTRICT (LWD)

STANDARD SPECIFICATIONS AND PROCEDURES FOR WASTEWATER FACILITY PROJECTS

"LWD STANDARD SPEC"

The LWD Standard Spec shall be used for the procedures, planning, design, and construction of extensions of the Leucadia Wastewater District (LWD) sewer collection and transmission system. All sets of development improvement plans that include LWD sewer facilities shall include the "GENERAL NOTES" listed herein on Standard Drawings. The GENERAL NOTES further incorporate this LWD Standard Spec, the Regional Standard Specifications (Green Book), and the Regional Standard Drawings.

Please refer to Division 1, pages 1-1-1 through 1-1-5 for Definition of terms specific to this LWD Standard Specification and which are additional to the Green Book Part 1 General Provisions, Section 1 – Terms, Definitions, Abbreviations, Units of Measure, and Symbols incorporated above by reference.

All aspects of the LWD Standard Spec shall be followed by Private Developers within the service area of Leucadia Wastewater District. Formal correspondence may be addressed to LWD:

Leucadia Wastewater District
1960 La Costa Avenue
Carlsbad, CA 92009
760-753-0155 telephone
760-753-3094 facsimile

The LWD District Engineer is a registered civil engineer designated by LWD to act either directly or through their properly authorized agents, engineers, assistants, inspectors, superintendents, or as otherwise qualified or assigned. All sets of development improvement plans shall include an Improvement Plans approval block and signature by the LWD District Engineer as shown on the Standard Drawings.

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LWD STANDARD SPECIFICATIONS

DIVISION 1 – SEWER SYSTEM PROCEDURES, PLANNING, AND DESIGN PART 1 – PREPARATION AND PROCESSING OF WASTEWATER FACILITY PROJECTS

1.01 Introduction

The purpose of this specification is to outline the Leucadia Wastewater District (LWD) process of completing utility improvement projects. Utility improvement projects may include wastewater collection, pumping, and transmission facilities that connect to the Leucadia Wastewater District (LWD) sewer system. The usage, type, design, and construction of such facilities must comply with LWD rules and regulations, including this Standard Specification (Standard Spec) and the LWD Wastewater Ordinance. Upon successful design, construction, dedication, and acceptance of public sewer facilities in accordance with the Standard Spec, ownership is transferred to LWD, which assumes responsibility for their operation and maintenance.

Additionally, LWD conducts limited review and approval of private facilities design in accordance with this Standard Spec including: private sewer service laterals within public right-of-way, easement, and private property; private sewer pump stations and pressure laterals (force mains); food establishment plumbing and grease removal devices with regard to Fats, Oils, and Grease management. LWD does provide construction inspection of private facility connections to public facilities and lateral work within street right-of-way and easements. However, LWD does not provide detailed inspection on private property for facilities which will not be offered or accepted as public sewer facilities. LWD does not own, or accept ownership, of private sewer facilities, including any portion of the sewer lateral.

The procedural guidelines in this division are intended to provide the public and LWD staff with well-defined, concise, and understandable procedures for the processing of sewer improvement projects.

These guidelines are not a substitute for regulations and permitting requirements of other public agencies, such as the Cities of Carlsbad and Encinitas. Owner is solely responsible for ensuring compliance with all non-LWD regulations and permitting requirements. Additionally, the Owner's Contractor shall obtain and comply with all right-of-way and other required City and jurisdictional permits and items of compliance prior to and during construction of Public Sewer Facilities or Private Sewer Facilities including and not limited to: Water Pollution Control Plan and/or Storm Water Pollution Prevention Plan (SWPPP) Management Plan; traffic control plan; excavation safety; trench compaction; paving and street restoration; etc.

1.02 Definition of Terms and Abbreviations

The following Definition of Terms are in addition to those specified in the "Greenbook", Standard Specification for Public Works Construction, 2022 edition plus latest Supplement only as prepared and published as intermediate amendments to the Greenbook by Public Works Standards, Inc. Independent supplements by local cities or counties do not apply to the work within LWD.

Accessory Dwelling Unit – A residential dwelling defined as an Accessory Dwelling Unit by the city in which it is located.

Acceptance - The action by LWD accepting ownership of privately constructed sewer facilities in accordance with this Standard Spec. See Final Acceptance for a list of requirements.

Agency - Shall be interpreted throughout the Standard Spec and Greenbook to be LWD.

Appurtenances - Valves, pumps, piping, fittings, cleanouts, manholes, frames and covers, lateral markers, and all other work required to make a complete sewer installation.

Board - The Board of Directors of LWD.

Building Sewer - Privately owned sewer facilities that convey wastewater to the public sewer system.

Collection Line - LWD's sewer pipeline to which the sewer service laterals are connected.

Contract - The Contract between the Owner and the Contractor.

Contractor - The person or entities entering into a contract with the Owner for performance of the work or improvement pursuant to certain specifications. The Contractor shall be a licensed State of California Class-A, or approved Class C-34 or C-42 contractor.

Developer - Any property owner, person or entity, or agent thereof who makes application for LWD service, constructs Private Sewer Facilities, connects Private Sewer Facilities to Public Sewer Facilities, or enters into an agreement with LWD to construct and install facilities which after acceptance, will become part of LWD's system and who must select and employ a licensed Class A, or approved C-34 or C-42, contractor to perform the work.

District - The Leucadia Wastewater District (LWD).

Engineer - Shall be interpreted to be the same as the LWD District Engineer, unless otherwise noted.

Field Approval - Construction work is considered to have Field Approval after the following activities are complete: all construction work; Owner notification to District that construction is complete; inspection and approval of final work by the LWD Inspector; Inspector submittal of written final project inspection report recommending acceptance of work by the LWD General Manager.

Final Acceptance - Same as **Acceptance**. Final Acceptance only occurs after all of the following items and actions are complete: issuance of title insurance for all project easements; Field Approval; Notice of Completion is filed with County Recorder with no resulting liens claimed after 60 days posting; filing of the Dedication of Sewers Form by the Owner with LWD; receipt and acceptance of as-built record drawings by LWD from Owner; completion of all other pre-acceptance items required by this Standard Spec, and execution of a Notice of Acceptance by the LWD General Manager.

FOG (Fats, Oils and Grease) - Any substance, such as a vegetable or animal product, that is used in, or is a byproduct of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.

Food Services Establishment - Facilities defined in California Uniform Retail Food Services Establishments Law (CURFFL, California Health & Safety Code section 113789), and any commercial entity operating in a permanently constructed structure such as a room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by Type I or Type II hoods. For purposes of permit conditions and capacity fees, Food Services Establishments are categorized as Limited, Low, or High Food Preparation Establishments.

General Manager - The LWD executive who oversees the day-to-day operations of the District and is responsible for making policy recommendations to the Board of Directors and implementing Board policy directives.

Grease Control Device - Any grease interceptor, grease trap, or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines with the purpose to trap, collect, or treat FOG prior to it being discharged into the sewer system. Grease Control Devices may also include other proven methods to reduce FOG, subject to the approval of the District.

Grease Interceptor or Gravity Grease Interceptor (GGI) - A multi-compartment device that is constructed in different sizes and is generally required to be located, according to the California Plumbing Code, underground between a Food Services Establishment and the connection to the sewer system. These devices do not include flow control or restriction and uses gravity to separate FOG from the wastewater as it moves from one compartment to the next.

High Food Preparation Establishments - Facilities that prepare food and have equipment and/or uses deemed to have a high “risk” of FOG, BOD, or TSS discharge (char-broiler, griddle, grill, stove (range), oven (range), deep fryer, kettle, rotisseries, smoker, tilt skillet, pizza oven, and other similar equipment also includes facilities for which the preparation and sale of specialized beverages, such as coffees, is the primary focus of the business).

Hydromechanical Grease Interceptor (HGI) or Grease Trap - A grease control device usually made of plastic, steel, or cast iron with inlet flow control and baffles used to separate grease and solids. HGI's are typically small and sometimes serve individual fixtures. An HGI is not an approved substitute for a Gravity Grease Interceptor.

Inspector - The personal representative of LWD acting through LWD, the General Manager, or the LWD District Engineer.

Island Area Plan - The Island Area Collection System Plan adopted by LWD which may be updated from time to time. The Island Area Plan provides sewer facility planning and design

guidance for the area within LWD's Sphere of Influence in the City of Encinitas commonly referred to as the "Island Area". It is generally located west of Interstate 5, east of Highway 101, south of La Costa Avenue and north of Encinitas Boulevard. A copy of the Island Area Plan is available for review at the LWD office.

Junior Accessory Dwelling Unit - A small ADU located within the main single-family home with a separate entrance, that is defined as a Junior Accessory Dwelling Unit by the city in which it is located.

Lateral Plans - Improvement Plans for private laterals that will connect directly to public sewer.

Limited Food Preparation Establishments - Facilities that only engage in the reheating, hot holding, or assembly of ready to eat products and the incidental sale of beverages, and as a result, the wastewater discharge typically contains relatively less FOG than a Low or High Food Preparation Establishment. A Limited Food Preparation Establishment does not include any operation that changes the form, flavor, or consistency of food.

Low Food Preparation Establishments - Facilities that prepare food, but have equipment and/or uses deemed to have a low risk of FOG, BOD, or TSS discharge (microwave, toaster, toaster oven, bread oven, combi-oven, steamers, freezers for serving frozen products, and other similar equipment). Includes facilities for which the preparation and sale of specialized beverages, such as coffees and smoothies, is an incidental part of the business.

LWD District Engineer - A registered engineer appointed by LWD to act directly, or through properly authorized agents, on behalf of LWD.

LWD District Manager - Same as General Manager

LWD Wastewater Ordinance - Ordinance 139, or the current LWD Wastewater Ordinance in effect as it may be amended from time to time. Privately constructed Sewer Facilities and the Standard Spec are subject to the terms and conditions of the LWD Wastewater Ordinance, which is the principal regulatory document for LWD.

Master Sewer Service Permit Agreement - Agreement for a property that includes multiple businesses, such as a commercial center.

Microenterprise Home Kitchen Operation – Food service establishment that is operated by a resident in a private home kitchen where food is stored, handled, and prepared that may be served to customers. Food must be prepared the day of service and can be eaten onsite or be delivered to the customer by the operator.

Owner - Same as Developer.

Private Engineer - A registered civil engineer employed by Owner.

Private Sewer Facilities - Sewer Facilities that are privately owned or privately constructed and not dedicated and accepted as a Public Sewer Facility by LWD. Private Sewer Facilities include Sewer

Facilities within a privately-owned building, Service Laterals, private pump stations, Grease Control Devices, and all facilities located between the sewer customer and the connection to the collection line, including the integral or saddle wye fitting that connects to the privately-owned Service Lateral. Sewer Facilities intended for dedication to LWD are Private Sewer Facilities until such time as they are accepted by LWD.

Public Sewer Facilities - Sewer Facilities owned by LWD, including facilities designed and constructed by LWD and facilities that have been dedicated and accepted as part of the public sewer by LWD. Private sewer facilities constructed for dedication to LWD do not become Public Sewer Facilities until they have been accepted by LWD in accordance with this Standard Spec.

Real Property Owner - The owner of any land where sewer facilities are to be constructed, including property served by the project and any other properties where sewer facilities will be installed. All applications, agreements, or other documents that affect real property must be executed by, or include written authorization from, the owner of the real property affected. Written authorization may include a Master Sewer Service Permit Agreement that accepts the terms and conditions of all tenant permits for sewer service to the property.

Sewer Service Lateral, Service Lateral, or Lateral - Sewer pipeline from the plumbing of a building to a Collection Line including portions that extend across other properties and/or public rights-of-way and the saddle, wye, or other physical connection to the Collection Line. Service Laterals are privately owned and maintained.

Sewer Facilities - All facilities, public or private, used for the transfer, storage, and/or treatment of wastewater, including without limitation, building sewers, Service Laterals, Collection Lines, force mains, pump stations, plant headworks, Grease Control Devices, treatment plants, and related Appurtenances.

Sewer Service Permit - Permits issued by the LWD that authorize discharge into Public Sewer Facilities.

Specifications - The LWD Standard Spec and the Standard Specifications For Public Works Construction - latest Edition (Greenbook) plus latest Supplement only as prepared and published as intermediate amendments to the Greenbook by Public Works Standards, Inc. If in conflict, these standards govern in the order stated with the LWD Standard Spec having precedence. Other Greenbook supplements by other agencies, such as the County of San Diego or the City of San Diego or other, shall not apply to work in LWD.

Standard Drawings - Division 3 of the LWD Standard Spec.

Subdivider - Same as Owner and Developer.

Trunk Line - A main line sewer pipeline to which Collection Lines are connected and which serves the primary purpose of transporting sewage from Collection Lines to the pump station or treatment plant.

The following abbreviations are in addition to those specified in the Greenbook.

<u>Abbreviation</u>	---	<u>Word or Words</u>
ADU	---	Accessory Dwelling Unit
APPROX	---	Approximately
BOD	---	Five-day Biochemical Oxygen Demand
CL	---	Class, Centerline, or Clearance
CLR	---	Clear
CONT	---	Continuation
CSA	---	Contractual Service Agreement
DEF	---	Deflection
DR	---	Drive or Dimension Ratio
E	---	Electrical or East
EDU	---	Equivalent Dwelling Unit
EXIST or EX	---	Existing
FLG	---	Flanged
FT	---	Feet
G	---	Gas
GCD	---	Grease Control Device
GGI	---	Gravity Grease Interceptor
GIS	---	Geographical Information System
HGI	---	Hydromechanical Grease Interceptor
IE	---	Invert Elevation
JADU	---	Junior Accessory Dwelling Unit
LAFCO	---	San Diego County Local Agency Formation Commission
LWD	---	Leucadia Wastewater District.
MEHKO	---	Microenterprise Home Kitchen Operation
MIN	---	Minimum
MJ	---	Mechanical Joint
MSL	---	Mean Sea Level
N	---	North
OH	---	Overhead
PE	---	Plain End
PDF	---	Portable Document Format
PDR	---	Preliminary Design Report
PL	---	Property Line
PR	---	Preliminary Title Report
RD	---	Road
REQD	---	Required
RW	---	Recycled Water
R/W or ROW	---	Right-Of-Way
SCH	---	Schedule
SDG&E	---	San Diego Gas & Electric Company
SDR	---	Standard Dimension Ratio
SDRSD	---	San Diego Regional Standard Drawings
S	---	South
SOI	---	Sphere of Influence
SQ	---	Square
ST	---	Street
T	---	Telephone

TSA	---	Temporary Service Agreement
TSS	---	Total Suspended Solids
TV	---	Television
UG	---	Underground
USC&GS	---	United States Coast & Geodetic Survey
W	---	Water or West
W/	---	With

1.03 Design and Construction Policy

LWD requires that Sewer Facilities be designed and constructed in the manner that is best suited for existing and future service requirements. This policy helps reduce costs, facilitates proper planning and orderly expansion of sewer service, avoids the need to reconstruct Sewer Facilities not properly designed for future demands, and minimizes public and private inconvenience caused by Sewer Facility construction projects. To accomplish these objectives, the LWD District Engineer applies the following policies to the design and construction of new Sewer Facilities:

A. New Sewer Facilities:

1. Sewer Facilities shall comply with this Standard Spec and the LWD Wastewater Ordinance;
2. Sewer Facilities accepted by LWD shall be constructed in the public right-of-way whenever feasible;
3. Where construction of Sewer Facilities to be dedicated to LWD within a public right-of-way is not feasible, they shall be located within 20 foot easements dedicated to LWD;
4. Extension of public sewer in streets shall be required at least 10 feet upstream of the downstream boundary of the property being served, or longer as necessary to accommodate the number of sewer laterals being connected from that property;
5. Each Owner shall be responsible, and agrees to indemnify LWD and its representatives, for the design and construction of all on-site and off-site Sewer Facilities necessary to accommodate their project, as reviewed and approved by LWD;
6. Each Owner shall be responsible for attainment of private easements needed to connect their project to the LWD sewer system. Private easements shall be formally recorded against the Grantor property(ies) by Owner with the County of San Diego, County Recorder;
7. Each Owner shall provide LWD the approved, recorded easement(s) necessary to accommodate connection of upstream properties to the LWD sewer system;

8. Extension of sewer easements and public sewer in sewer easements for future upstream sewer connections shall be required across the entire real property requesting sewer service with termination at a new upstream manhole in public right-of-way wherever possible;
9. Sewer Facilities shall be of a size, slope, and depth necessary to serve both on-site real property and all potential properties that may need to connect to the sewer facilities in the future; and
10. Sewer Facilities shall comply with planning and design guidance adopted by LWD for specified areas, such as the Island Area Plan.

These policies are addressed in more detail throughout this document. Owners are strongly encouraged to meet with the District Engineer early in the planning process to scope the overall needs of a proposed project.

1.04 Construction of Facilities by LWD

LWD will not construct facilities to provide utility service to land being divided for a subdivision or parcel map development, except where facilities are to be constructed as part of the LWD Capital Improvement Program or as a formal LWD Improvement District or Assessment District with organization and funding previously approved by the LWD Board of Directors.

1.05 Facilities Dedicated to LWD by Owners

Owners of land will provide, at their own expense, all facilities required for utility service within the area to be developed.

Owner shall provide all necessary sewer and related technical documents including, but not limited to the following: sewer study, tentative map, final map, preliminary title report, sewer improvement plans, grading plans, geotechnical investigation and report, annexations, easements, and encroachment permits prepared by the Private Engineer, who shall be a civil engineer licensed by the State of California. All such documents shall be prepared and submitted to LWD together with any required agreements and fees for review and approval by the LWD District Engineer. The Private Engineer shall be solely responsible for the technical adequacy and accuracy of all technical documents regardless of review and approval by LWD or the LWD District Engineer.

To provide required services within a development, it may be necessary for an Owner to also provide certain off-site facilities or to over-size the on-site facilities, that are to become part of the LWD system. In such event, Owner may be entitled to reimbursement of certain costs for such off-site or over sizing of on-site facilities in accordance with requirements discussed hereinafter for Reimbursement Agreements.

1.06 Construction of Sewer Facilities That Will Not be Dedicated to LWD

All Sewer Service Laterals shall be designed, constructed, inspected, tested, and approved in accordance with the LWD Standard Spec and LWD Wastewater Ordinance. Ownership and

maintenance of all Sewer Service Laterals will remain with the property owner. Sewer Service Laterals shall not be dedicated to LWD, nor shall LWD accept ownership or maintenance of Sewer Service Laterals from Owner.

Formal improvement plans for private sewer service lateral plans (Lateral Plans) for laterals connecting directly to existing LWD public sewer shall be prepared and are subject to review and approval by LWD. Lateral Plans shall include the connection detail, lateral alignment, and profile or spot elevations, and LWD required construction notes for the lateral from the point of connection to public sewer through street right-of-way or public sewer easement to the property line of the property being served. In addition to other improvement plan requirements and prior to construction of Lateral Plans, the Developer's contractor shall provide evidence to the LWD Inspector of a Right-of-Way Encroachment Permit issued by the city in which the construction work is located.

When connection to the public sewer system requires the location of Service Laterals, or other privately owned Sewer Facilities, within neighboring private properties, Owner shall obtain and provide LWD with copies of recorded easements that permit the installation and maintenance of the Sewer Facilities. The recorded easements shall be a condition of either final plan approval or Sewer Service Permit issuance.

Private pump stations are disfavored design options that are only allowed where there is a showing of unusual circumstances, such as technical infeasibility or significant hardship. The District Engineer must also find that they will not pose an unacceptable risk to the public sewer system.

Multi-unit sewer laterals and private pump stations require a supplemental sewer service permit. Supplemental permit conditions for private multi-unit sewer service laterals shall require a formal agreement between Owner(s) and LWD in the form of a **PRIVATE SEWER AGREEMENT FOR MULTI-UNIT LATERAL, APPENDIX R**. Supplemental permit conditions for privately owned pump stations shall require a formal agreement between Owner and LWD in the form of a **PRIVATE PUMP STATION AGREEMENT, APPENDIX S**. The agreement(s) shall be recorded by Owner against, and shall be an obligation running with, the property. The agreement(s) shall include requirements for Owner and all future owners of all, or any portion of, the property to be solely liable and responsible for compliance with the LWD Standard Spec regarding design, construction, operation, maintenance, repair, and replacement of the privately owned Sewer Facilities. Owner shall comply with the LWD Standard Spec and shall submit such design packages to LWD for review, approval, and for record purposes. LWD shall have no obligation whatsoever to design, construct, operate, maintain, repair, or replace any aspect of privately owned Sewer Facilities. Each such agreement will be subject to the requirements, review, and approval of LWD.

All Private Pump Station Agreements shall include requirements that the owner acknowledges that a private sewer pump station may produce sewer gases which can lead to odor complaints and/or corrosion of sewer infrastructure. Owner shall be solely and strictly responsible for prevention of odor generation resulting in odor complaints and/or sewer infrastructure corrosion as a result of sewer gases produced by the private pump station and private force main/lateral.

1.07 Development Requirements and Procedures for all Sewer Facilities

This section sets forth the general permit, planning and development requirements for privately constructed Sewer Facilities. Any questions or matters not covered herein or required interpretation of any part of these procedures shall be brought to the attention of the LWD District Engineer for clarification.

A. Sewer Service Permit

A Sewer Service Permit or amendment is required for all privately constructed wastewater facilities. There are four general permit categories: (1) Industrial Wastewater, (2) Food Services Establishment Wastewater, (3) Domestic Wastewater, and (4) Underground Structure Drains. In addition, Supplemental Permits are required for private pump stations, multi-unit laterals, Food Preparation Establishments (including a range of restaurants and MEHKO's) and for changes to existing permits.

In some instances when a single property includes multiple buildings, such as a commercial center, a Master Sewer Service Permit Agreement may be issued. Refer to the LWD Wastewater Ordinance, Article III, for detailed information regarding permit categories and procedures. The information and procedures below are intended to implement the permit requirements of the LWD Wastewater Ordinance.

B. Sewer Study

A sewer study shall be required for any project that exceeds 50 EDUs or when required by the LWD District Engineer. The study shall either be performed by the Private Engineer or by the LWD District Engineer at the discretion of the LWD District Engineer and at the expense of the Owner. The study shall be based on the planning and design criteria outlined in the LWD Standard Spec, shall analyze the project's impact on the LWD system, and shall be reviewed and approved by LWD.

C. Legal Description and Annexation Status Determination

The following process shall be used to determine if annexation of the subject property into the LWD service boundary is required:

1. A legal description of the property to be served by the proposed sewer and any property through which that sewer will traverse must be filed with LWD in the form of a Preliminary Title Report or equivalent documentation acceptable to the LWD District Engineer;
2. LWD will review the property location and LWD files to determine whether the subject property is within the existing LWD boundary, or whether the property is eligible to be annexed to LWD;
3. If the property is not currently within the LWD boundary, LWD staff will determine if the property is within the Sphere of Influence approved by the Local Agency

Formation Commission (LAFCO) and whether the property can physically be served by LWD; and

4. LWD will inform Owner if annexation to the District is required and, using the information provided at the time, provide a preliminary assessment of any special sewer requirements that would be imposed by LWD, as a condition of annexation. If required, the annexation must be processed through LAFCO by either Owner-Initiated, or District-Initiated proceedings. The District-Initiated process is preferred and is further described hereinafter.

D. Annexation Procedure

Properties must be within the existing LWD Sphere of Influence and service area boundary for sewer service prior to connecting to the LWD sewer collection system, except as noted below. Changes to the Sphere of Influence and service area boundaries come under the authority of LAFCO and LWD. These boundaries may be viewed in graphic format on the LAFCO website at: <https://www.sdlafco.org/home/showpublisheddocument/2586/6375753830540>.

It is preferred by LWD that the property-owner submit application materials through LWD and that LWD petition LAFCO for the “Change of Organization” available in **Appendix K**. Once the application package is submitted by LWD to LAFCO, the LAFCO processing generally takes six months to complete. Alternatively, the Developer can submit application material directly to LAFCO. LWD is not responsible for the application material, review process, or any associated fees with applying directly to LAFCO.

The following rules and procedures apply to LWD initiated annexations:

1. If LWD determines that annexation is appropriate and elects to initiate the process, LWD will provide a **CONSENT TO ANNEXATION TO LEUCADIA WASTEWATER DISTRICT FORM, APPENDIX J** and a **LAFCO CHANGE OF ORGANIZATION OR REORGANIZATION APPLICATION, APPENDIX K** to Owner;
2. Owner must return the executed **APPENDIX J, CONSENT TO ANNEXATION TO LEUCADIA WASTEWATER DISTRICT FORM**, the **LAFCO CHANGE OF ORGANIZATION OR REORGANIZATION APPLICATION, APPENDIX K**, and pay the LWD annexation processing deposit and LAFCO related annexation fees (including State Board of Equalization and County Recorder fees) to LWD;
3. In some cases when a request for annexation is due to the need to replace a failing on-site wastewater disposal system (such as a septic tank and leach field), the Owner may request expedited processing by LWD and LAFCO through a Contractual Service Agreement (CSA). Approval by LAFCO of the CSA would allow connection to the public sewer prior to final approval of annexation, typically within one month of completion of the following items and actions:

- a. Submit the completed APPENDIX J AND K forms to LWD with a request for an interim Contractual Service Agreement;
 - b. Owner shall provide a letter addressed to LAFCO for LWD review and submittal to LAFCO, which has been prepared by the County of San Diego, Department of Environmental Health (DEH). The DEH letter shall confirm and state that the request the on-site disposal system should be replaced in response to an emergency health and safety situation, such as a failed septic system, and shall also provide information documenting the circumstances.
 - c. Submit annexation, sewer capacity, and other related fees and deposits as required to LWD;
 - d. If all required information is provided, all related fees and deposits are made, and the CSA is acceptable to LWD, then LWD will prepare a draft CSA with either 1) a letter from the LWD General Manger to LAFCO; or 2) a Resolution of the LWD Board of Directors requesting LAFCO approval of the CSA and the Change of Organization (Sphere of Influence and/or service area boundary). Processing time of a CSA by LAFCO is typically up to one month. Following LAFCO approval, the CSA may be signed by the Owner and the LWD General Manager after which the connection to the LWD sewer may be completed.
4. Regardless of normal or emergency annexation procedures, the Owner shall prepare the following sections of the LAFCO Change of Organization or Reorganization Application prior to LWD review of annexation:
- a. Metes and bounds legal description shall be prepared by a State of California licensed surveyor in strict accordance with LAFCO and County of San Diego requirements;
 - b. Reproducible parcel/plat map and vicinity map; and
 - c. California Environmental Quality Act (CEQA) documentation prepared under the direction of LWD or other agency acting as lead agency for purposes of CEQA. CEQA documentation may be in the form of a Notice of Exemption, Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report that specifically addresses environmental impacts of the proposed annexation to LWD;
5. LWD staff will prepare a Resolution for approval by the LWD Board of Directors that will include the Legal Description, Plat Map, etc.;
6. Upon approval of the Resolution by the LWD Board of Directors, the Resolution is sent by LWD to LAFCO together with the completed LAFCO Change of Organization or Reorganization Application, LWD Consent to Annexation to

Leucadia Wastewater District Form, Metes and Bounds Legal Description, Plat Map, CEQA documents, and LAFCO processing payment to LWD by Owner;

7. LWD should thereafter receive a certificate of filing from LAFCO after all necessary materials are received and acknowledged by LAFCO;
8. LAFCO will then conduct an Authority Hearing to determine the status of the Annexation and may waive notice, hearing, and election;
9. If a hearing is not waived by LAFCO and there is protest of 50% or more of the subject property owners, Annexation is canceled. If protest is greater than 25% and less than 50% a vote is held. When the majority of voters approve the Annexation, it is approved by LAFCO. LWD will be sent a copy of the LAFCO resolution regarding the annexation;
10. LWD will submit checks for payment to LAFCO for the State Board of Equalization and County Recorder fees on behalf of the Owner;
11. LAFCO will issue and LWD will receive a Certificate of Completion; and
12. LWD will refund any unused portion of the annexation deposit, or additional funds will be requested for payment to cover the LWD cost of processing.

E. Miscellaneous Project Reviews

1. Owner may submit miscellaneous items to LWD for review, such as: tentative maps ("TM"); minor grading plans for small projects; requests for sewer availability letters for submittal to jurisdictional cities, ADU additions, and other similar items.
2. Such items shall be submitted for review in sufficient time for LWD to provide sewer conditions to Owner and jurisdictional city.
3. At the time of filing, Owner shall deposit with LWD a sum, to cover the estimated cost of LWD District review, plan checking, and engineering services.
4. LWD will review the requested items and provide any special sewer system requirements, including annexation if necessary.

F. Plan Check Application

Owner is responsible for preparation of detailed engineering drawings, easements, encroachment permits, and other documents required for the approval and construction of the proposed Sewer Facilities. Information provided shall include design specifications for proposed or existing grease control devices for food establishments. The plans, easements, and encroachment permits shall be prepared in accordance with this LWD Standard Spec. Each sewer system shall provide for sewer service, where applicable, to each lot in a subdivision and to each parcel in a parcel map development. The utility system proposed

shall not be detrimental in any way to operation of the current or proposed LWD utility system. The following procedures apply to plan submittals:

1. Owner submits **APPLICATION FOR SEWER PLAN CHECK AND CONSTRUCTION PERMIT, APPENDIX I**, to LWD. LWD staff calculates the amount of the plan check deposit in accordance with the current LWD fee schedule and requests deposit from Owner.
2. Owner submits plan check fee and documents including the following (where applicable):
 - a. One copy of the Sewer Improvement Plans;
 - b. One copy of the Grading Plans;
 - c. Electronic files, if applicable, containing the project boundary with streets, parcels or lots, sewer pipelines, and manhole locations;
 - d. One copy of the Tentative Tract Map or Parcel Map;
 - e. Preliminary Title Report;
 - f. One copy of the Conditions of Approval;
 - g. One copy of the design calculations for the sizing of the wastewater system;
 - h. LWD Sewer Easement and / or Quitclaim documents;
 - i. LWD Encroachment Permit documents;
 - j. LWD Sewer Supplement; and
 - k. Grease Control Device specifications;
 - l. Private Pump Specifications;
 - m. Except for signed original documents and plans, submittal review documents may be submitted as digital Portable Document Format (PDF) files in lieu of hard copy, unless hard copies are otherwise specifically requested by LWD.
3. LWD assigns a location code to project for cost tracking and forwards deposit to LWD Finance Department;
4. LWD assigns a task order authorization number, with an authorization amount to the LWD Engineer for the project; and

5. All submitted documents are delivered to LWD District Engineer for plan checking.

G. Easement for Public Sewer Facilities

1. Whenever plans provide for any portion of facilities intended for dedication to LWD to be constructed in an area other than a dedicated public street or road, Owner shall grant or cause to be granted an easement along with a title report and title insurance insuring clear title in favor of LWD.
2. LWD may require that the grant of easement provide a right-of-use by off-site properties for LWD sewer system construction, connection, and maintenance purposes.
3. LWD easements shall be exclusive unless otherwise approved by LWD District Engineer. In some cases, LWD may allow joint use of easements subject to review and approval and conditions set by LWD District Engineer.
4. Owner shall obtain easement approval from LWD District Engineer as follows:
 - a. LWD will determine the form of the Grant of Sewer Easement. The Sewer Easement shall be a **GRANT OF EXCLUSIVE SEWER EASEMENT, APPENDIX A**, unless otherwise approved by LWD Engineer. As requested, and only if approved by LWD Engineer, the Grant of Sewer Easement may be in the form of a **GRANT OF NON-EXCLUSIVE SEWER EASEMENT, APPENDIX B**;
 - b. Owner shall submit a plat map and legal description of the easement, prepared by a registered California Civil Engineer or Licensed Surveyor. The plat map shall normally be prepared using a readable scale drawing on standard 8.5"X11" paper showing all dimensions and necessary data. The LWD Engineer will then send the appropriate document in the form of either an **EXCLUSIVE SEWER EASEMENT, APPENDIX A** or a **NON-EXCLUSIVE SEWER EASEMENT, APPENDIX B** to Owner for signature;
 - c. Owner shall submit the Sewer Easement document to LWD for review with a Preliminary Title Report (PR) for easement title insurance for the benefit of LWD. The conditions of the easement title insurance shall be as follows:
 - (1) The PR and final standard policy of title insurance shall be prepared specifically for the Sewer Easement. The standard policy of title insurance shall be subject to the review and approval of the LWD District Engineer;
 - (2) All encumbrances to the area of the easement shall be shown on the plat map and all exceptions to the title insurance exclusively for the easement shall be listed in the PR and final policy of title insurance. Exceptions not applying to the easement shall not be included in the PR;

- (3) Owner shall cause all existing lenders and owners of the property to subordinate their interests to the rights of the new easement by prior or concurrent recorded document;
 - (4) Any and all prior rights in the real property of the proposed sewer easement and owners of said rights shall be identified by Owner. The requirements of those prior easements shall be satisfied by Owner with regard to the recording of the new sewer easement. If required by LWD, Owner shall cause subordination or joint use agreements with the prior rights easement holders to be recorded prior or concurrent to the new easement. LWD will assist, at Owner's expense, in the negotiation of a joint use agreement, if necessary, and if LWD approves joint use of the easement area;
 - (5) Satisfied or paid Deeds of Trust shall be removed from the policy at the effort and expense of Owner;
 - (6) Property tax payments shall be paid through the most recent bi-annual assessment;
 - (7) The Preliminary Title Report shall be updated to reflect required and other changed conditions and submitted for final approval by the LWD District Engineer; and
 - (8) The insured value of the easement for title insurance shall be \$150 per linear foot of easement or \$60,000, whichever is more. The basis of insured value may be updated from time to time by LWD.
5. Owner shall submit one copy of the fully prepared Sewer Easement document along with the Improvement Plans to the LWD District Engineer for review. After any required corrections to the improvement plans and after any required corrections, subordinations, and agreements to the PR are completed and recorded, Owners shall submit an updated PR and obtain approval from the LWD District Engineer.
6. After LWD approval, Owner shall have the easement signed and notarized by each and all owner(s) of the property subject to the easement. Owner shall deliver the approved notarized Sewer Easement Document to the LWD District Engineer for final approval and forwarding to the LWD General Manager for signature.
7. The LWD District Engineer will instruct Owner to pick up the fully executed Sewer Easement Document from LWD, record the easement(s) with the County Recorder, and to cause the Title Insurance company to issue the Title Policy in the required amount to LWD.
8. Owner shall record the easements at the County Recorder's Office prior to signature of the original "mylar" Improvement Plan title sheet by the LWD District Engineer. The Policy of Title Insurance will be issued after easement recording and prior to LWD approval signature of improvement plans. The Improvement Plans shall include reference to all recorded easements including the County Recorder's document number and date recorded for the subject easement.

9. All of the above items shall be completed, or caused to be completed, by Owner and at Owner's expense. All expenses of LWD to review and facilitate this process shall be at Owner's expense.
10. For discontinuation of an existing easement that was granted to LWD a **QUIT CLAIM DEED AND RELEASE OF LIABILITY, APPENDIX Q**, shall be used to release ownership and liability of such real property.

H. Encroachment Permits

Attainment of all required encroachment permits shall be a condition of either final plan approval or Sewer Service Permit issuance.

Owner shall obtain and provide LWD with copies of any encroachment permits that are required by a City or other public agency for installation and/or maintenance of the sewer facilities. Owner is responsible for determining if encroachment permits are required by another agency.

For projects that require an LWD encroachment permit, the following rules and procedures shall apply:

- a. Owner shall obtain approval from LWD Engineer for acceptability, location, dimensions and extent of any encroachment into LWD sewer easements;
- b. The Encroachment Permit shall be in the form of **ENCROACHMENT PERMIT, APPENDIX C**, unless otherwise approved by LWD District Engineer;
- c. A drawing of the encroachment shall be prepared on Mylar using convenient scale (letter-sized sketch is desirable) showing all dimensions and necessary data to properly describe the extent of the encroachment. The Encroachment Permit document shall be completed and submitted for LWD review;
- d. Review and Approval: Two (2) copies of fully prepared encroachment document shall be submitted to LWD District Engineer for review. After any required corrections are completed, approval can be obtained from LWD District Engineer; and
- e. The original approved encroachment document shall be signed and notarized by Owner and delivered to LWD. The LWD General Manager, or his or her designee shall then sign the Encroachment Permit and return it to Owner for recording by the County Recorder. The agreed upon encroachment will not be allowed until LWD receives a recorded copy of the encroachment permit from the County Recorder's office.

I. Fencing Encroachment Permit Waiver

At the discretion of the District and on a case-by-case basis, the District may require an Encroachment Permit with waiver of the permit processing fee for installation of a fence. Some

of the fence criteria that may be considered by the District in making such a determination include:

- a. Fence is constructed of wood, PVC, bamboo, or chain link,
- b. Fence does not have deep or continuous footings,
- c. Fence is not a retaining wall,
- d. Fence is not constructed of concrete, masonry, or brick,
- e. Fence is perpendicular to sewer alignment,
- f. Fence parallel to the sewer alignment and more than 5-feet from the center of the fence to the center of sewer, and/or
- g. Non-continuous fence post footings not more than 2-feet deep.

J. Plan Check and Approval

1. Plan checking is performed by LWD Engineer and "red-lined" plans are returned to the Private Engineer with comments or corrections as necessary to conform to specifications. In most cases, comments will be returned by email or an email transmitted letter.
2. Plan checking also includes review of plans and specification for Grease Control Devices for Low and High Food Preparation Establishments. See the LWD Wastewater Ordinance for detailed information regarding Food Establishment Wastewater Permit Conditions. The following applies to all Low and High Food Preparation Establishment Wastewater Permit applications:
 - a. Owner shall submit architectural plans for LWD review, including plumbing plans and kitchen equipment plans;
 - b. Plumbing plans shall comply with the most recent edition of the California Plumbing Code with regard to grease facilities and sizing requirements;
 - c. Size, type, and construction of grease interceptor shall be approved by LWD District Engineer;
 - d. The need for a Grease Control Device for a Limited Food Establishment or MEHKO will be determined by the District Engineer on a case by case basis.
 - e. Location of a GGI or HGI must be approved by County Health Department;
 - f. LWD approval of GGI or HGI and/or FOG Best Management Practices (BMPs) Agreement shall be in the form of a **SEWER PERMIT FOG**

SUPPLEMENT, APPENDIX T, as modified by the LWD District Engineer for the specific application. For a property owner occupied Food Services Establishment, **APPENDIX T1** shall be used. For a tenant occupied Food Services Establishment, **APPENDIX T2** shall be used. The **SEWER PERMIT FOG SUPPLEMENT, APPENDIX T2** shall be executed by both the property owner and tenant; and

- g. All other building, plumbing, and electrical requirements shall be in accordance with the approved permits issued by the jurisdictional city.
3. Private Engineer submits revised plans as necessary. The Private Engineer shall return a response to the comments made and the updated set of plans.
4. LWD District Engineer completes plan check and determines that the plan meets the LWD Standard Spec and is acceptable for approval. Approval of plans by LWD District Engineer shall not relieve the Applicant of any responsibility for errors in the plans either of commission or omission. Such errors, when brought to the attention of the Private Engineer by LWD, shall be promptly remedied by the Private Engineer or Owner.

K. Construction and Inspection of Private Sewer Facilities

After LWD approval of the project plans and all other easements, permits, or documents required by LWD and attainment of any additional approvals required by the City of Encinitas, City of Carlsbad or any other agency with jurisdiction over Owner's project, construction may commence and LWD will provide inspection services as follows for any work within the right-of-way or LWD easements:

1. LWD will provide inspection for all privately constructed Sewer Facilities at the sole expense of Owner. LWD Inspector shall charge field time to the project via the LWD location code;
2. It is the Contractor's responsibility to comply with all City, State, and Federal regulations regarding shoring and excavation safety.
3. All material inspection and work shall be performed only in the presence of LWD's authorized representative, unless otherwise allowed by LWD's representative. All work done in the absence of LWD's authorized representative, without prior approval, shall be subject to rejection. If rejected, work shall be exposed to enable proper inspection by LWD's representative. If work does not meet LWD Standards to the satisfaction of LWD's representative, it will be removed and constructed to LWD's Standards at Owner's expense. In all cases, Owner shall obtain approval from LWD Inspector prior to any work or connection to LWD's pipeline.
4. Owner or Contractor shall request availability of inspection from LWD at least two (2) working days in advance of any sewer-related work to be done. Inspection will be provided as reasonably available and shall be coordinated with the LWD

Inspector. No inspection shall be available on holidays or weekends, unless approved by LWD;

5. The interior of the newly constructed sewer laterals shall be video taped by means of closed-circuit television (CCTV) inspection. Owner is required to retain a firm experienced in CCTV inspection and shall pay the full cost of television inspection at no cost to LWD. The video inspection shall be sent to LWD Inspector in digital form of DVD or CD for approval.
6. If the sewer construction work does not comply with LWD standards or damage to an existing sewer was caused by the Owner, the work shall be corrected and said sewer improvements shall be again video inspected for resubmittal, until satisfactory to the LWD District Engineer.
7. Upon completion of all Sewer Lateral work within the ROW or LWD easements, including the finishing of the property line cleanout, to the satisfaction of the LWD Field Inspector, the inspector shall issue a Project Closeout Letter to the LWD. LWD staff then reviews construction inspection deposit balance and refunds surplus funds after the project file is closed or requests additional fees to cover construction inspection costs.

L. Minor Deviations

Deviations from the requirements and procedures of this Standard Spec may be allowed by the District Engineer or LWD General Manager if they find that the deviations are minor in nature, do not impair the LWD system in any way, are consistent with District policy, and are necessary due to unusual circumstances such as technical, legal, or physical infeasibility.

1.08 Additional Requirements and Procedures for Public Sewer Facilities

The following sections typically only apply to privately constructed sewer facilities that will be dedicated to LWD unless otherwise noted by the LWD District Engineer on a project-to-project basis.

A. Agreement to Improve Subdivision Sewers

After plan approval for projects that include construction of facilities to be dedicated to LWD, Owner will be required to execute the standard LWD **AGREEMENT TO IMPROVE SUBDIVISION SEWERS, APPENDIX D**.

B. Owner Security

At the time of the execution of the Agreement to Improve Subdivision Sewers, Owner shall file with LWD the following security:

1. A good and sufficient **PERFORMANCE BOND, APPENDIX E**, in an amount not less than 100% of the estimated cost of the improvements, to secure the faithful performance of the terms and conditions of this agreement; and
2. A good and sufficient **MATERIAL AND LABOR BOND, APPENDIX F**, in an amount not less than 50% of the estimated cost of the improvements, to secure the contractor, his subcontractors, and persons renting equipment or furnishing labor or materials to contractor or subcontractors for the improvements.

The Private Engineer shall prepare a construction bond estimate in accordance with the current LWD approved minimum unit costs to be reviewed and approved by the LWD District Engineer to determine the amount of the aforementioned bonds.

The form of the bonds shall be as specified by LWD. In lieu of filing the bonds as provided above, Owner may furnish other security, such as cash, irrevocable letters of credit or other security acceptable to LWD. Such security shall be in the same amounts and for the same purpose as the bonds specified above and in a form satisfactory to LWD.

C. Final Submittal and Approval of Project Documents

Subject to approval of required easements, encroachment permits, bonds, and other documents required for the proposed sewer facilities, the final approval of project plans and authorization to proceed shall occur as follows:

1. LWD prepares **AGREEMENT TO IMPROVE SUBDIVISION SEWERS, APPENDIX D**, including **PERFORMANCE BOND, APPENDIX E and MATERIALS AND LABOR BOND, APPENDIX F**, and forwards to Owner for execution and return to LWD;
2. Owner returns the following to LWD:
 - a. The executed Agreement to Improve Subdivision Sewers, along with all other executed documents required by LWD;
 - b. The required deposits and security, (either cash, surety bond, or letter of credit), acceptable to LWD;
 - c. Recorded copies of all required grants of easements or rights-of-way and policy of title insurance as earlier required herein. (Owner shall assure LWD receives copies of recorded documents from County Recorder); and
 - d. If all items are complete, the project will be presented to the General Manager with a recommendation for approval of the Agreement to Improve Subdivision Sewers;

3. Upon approval of the **AGREEMENT TO IMPROVE SUBDIVISION SEWERS, APPENDIX D**, by the General Manager, Owner shall submit the Mylar construction plans for signature by LWD Engineer;
4. LWD Engineer signs title page of original project drawings;
5. LWD staff files bonds and agreement in project file and informs LWD District Engineer they have been executed;
6. LWD staff reviews plan deposit balance and refunds surplus funds or requests additional fees to cover plan check costs;
7. LWD staff determines construction inspection fee deposit in accordance with current fee schedules and requests inspection fee deposit from Owner;
8. Owner submits inspection fee deposit; and

Approval of construction plans and the **AGREEMENT TO IMPROVE SUBDIVISION SEWERS, APPENDIX D** shall automatically expire if construction does not commence within one (1) year of the date the construction plans were approved by the District Engineer. If construction does not commence within the one year period, said plans shall be resubmitted for approval by LWD District Engineer. The resubmitted plan check shall be subject to current LWD fees. This requirement may be waived on a case-by-case basis at LWD discretion.

To avoid misinterpretation of approved changes, all changes that affect the wastewater facilities requested after LWD approval and signature of the improvement plans shall require submittal, review, and approval of requested changes shown as a change on the original drawings prior to construction. LWD approval shall be indicated by District Engineer approval in the revision box of the drawings having said changes.

D. Construction and Inspection of Public Sewer Facilities

After LWD approval of the project plans, **AGREEMENT TO IMPROVE SUBDIVISIONS SEWERS, APPENDIX D**, and all other easements, permits or documents required by LWD and attainment of any additional approvals required by the City of Encinitas, City of Carlsbad, or any other agency with jurisdiction over Owner's project, construction may commence and LWD will provide inspection services as follows for any work within the right-of-way or LWD easements:

1. LWD will provide inspection for all privately constructed sewer facilities, including work to be performed under the **AGREEMENT TO IMPROVE SUBDIVISION SEWERS, APPENDIX D**, at the sole expense of Owner. Owner shall reimburse LWD for all such costs and expenses prior to final approval and acceptance. LWD Inspector shall charge field time to the project via the LWD location code;

2. Construction of the facilities shall be subject to inspection at any time by the LWD District Engineer and/or Construction Inspector;
3. Owner submits a PDF of plans reviewed, approved, and signed by LWD District Engineer and all jurisdictional agencies and submittal of shop drawings for all proposed materials to LWD. LWD staff forwards these documents to LWD Inspector;
4. It is the Contractor's responsibility to comply with all City, State, and Federal regulations regarding shoring and excavation safety. Evidence of compliance shall be provided to LWD prior to excavation.
5. Upon receipt by LWD of the approved plans, and prior to beginning construction of the facilities, Owner shall schedule a preconstruction meeting with the LWD District Engineer and/or Construction Inspector. The preconstruction meeting shall be held in accordance with the **PRECONSTRUCTION MEETING AGENDA, APPENDIX V**;
6. Upon completion of the preconstruction meeting, signature of the **PRECONSTRUCTION MEETING AGENDA, APPENDIX V**, and submittal, review, and approval of the required materials of construction, Owner shall commence construction of the facilities and complete the same in accordance with the **AGREEMENT TO IMPROVE SUBDIVISION SEWERS, APPENDIX D**, the approved plans, the LWD Standard Specs, submitted and approved materials shop drawings, and the instructions given at the preconstruction meeting;
7. All materials and work shall be performed only in the presence of LWD's authorized representative, unless otherwise allowed by LWD's representative. All work done in the absence of LWD's authorized representative, without prior approval, shall be subject to rejection. If rejected, work shall be exposed to enable proper inspection by LWD's representative. If work does not meet LWD Standards to the satisfaction of LWD's representative, it will be removed and reconstructed to LWD's Standards at Owner's expense. In all cases, Owner shall obtain approval from LWD Inspector prior to: placement of concrete for manhole bases or any other sewer related purpose; backfilling over any sewer pipe or sewer wyes; and installation of a sewer wye or saddle to the LWD's pipeline.
8. In addition to other requirements of the **PRECONSTRUCTION MEETING AGENDA, APPENDIX V** and project related meeting discussion, the Contractor shall provide an overall project schedule and a 3-week look-ahead construction schedule for all sewer improvements.
9. Owner or Contractor shall request availability of inspection from LWD at least two (2) working days in advance of any sewer-related work to be done. Inspection will be provided as reasonably available and shall be coordinated with the LWD Inspector. No inspection shall be available on holidays or weekends, unless approved by LWD;

10. The inspection of work shall not relieve Owner of any obligation to fulfill their agreement. Defective or unapproved work shall be remedied and made good, and unsuitable materials may be rejected, notwithstanding that such work and materials have been previously undiscovered by the LWD District Engineer or LWD Inspector. If the work, or any part thereof, shall be found defective at any time before the final acceptance of the whole work, Owner or his Contractor shall expeditiously make good such defect in a manner satisfactory to LWD District Engineer;
11. The LWD District Engineer or LWD Inspector may require at their discretion additional testing of installed materials to verify proper installation. These tests may include closed circuit televising, mandrel testing, low pressure air test, and/or other tests deemed necessary by LWD;
12. All costs for testing, re-testing, and re-inspection incurred by LWD that are necessitated by rejected or defective materials and/or workmanship shall be at the sole expense of Owner and shall be reimbursed to LWD prior to final approval and acceptance; and
13. When all construction work has been completed, Owner shall notify LWD that the work is ready for final inspection. An LWD representative shall thereupon inspect the finished work and will either approve the work or reject the work pending fulfillment of unsatisfied requirements.

E. Video Inspection

1. Prior to the start of new sewer related construction, the Owner shall CCTV all preexisting sewer to the nearest upstream and downstream manholes along segments of existing sewer which Owner will be connecting to with new sewer laterals or with new manholes or other structures. Before construction starts, Owner shall CCTV all pre-existing sewer that will be undercut regardless of vertical separation and overcut within 3-feet of vertical separation for the construction of any other utilities or for any other reason. Digital CCTV files shall be provided to LWD, shall be of a quality acceptable to LWD, and shall be re-done at Owner's expense if insufficient for any reason in the opinion of the LWD District Engineer.
2. Any person constructing sewer improvements shall video tape the interior of the newly constructed sewer pipe by means of closed-circuit television (CCTV) inspection. Owner is required to retain a firm experienced in CCTV inspection and acceptable to the LWD District Engineer. Owner shall pay the full cost of field inspection and television inspection of the construction at no cost to LWD. An LWD Inspector must be present during video inspection. Request for inspection shall be a minimum of two (2) working days in advance. The video inspection shall be sent to LWD District Engineer in digital form of DVD or CD for approval.
3. If the sewer construction work does not comply with LWD standards or damage to an existing sewer was caused by the Owner, improvements shall be corrected and

said sewer improvements shall be again video inspected for resubmittal, until satisfactory to the LWD District Engineer.

F. Field Approval

1. Upon completion of the facilities, or when only minor outstanding construction items are remaining, a preliminary walk through inspection by the LWD Inspector shall be conducted, and a punch list of any outstanding items will be prepared by LWD. It shall be the responsibility of Owner to assure any outstanding items are completed in a timely manner.
2. Field Approval shall be granted by the LWD Inspector after he or she is satisfied that all improvement work has been completed in accordance with the approved plans and LWD Standard Spec and any other applicable agreements. Field Approval occurs when the LWD Inspector submits a written final project inspection report recommending acceptance of work to LWD General Manager.
3. The LWD Inspector may grant Field Approval before all punch items are complete if the Inspector determines that the remaining items are minor in nature and the Owner is working in good faith to complete the remaining punch list items.
4. LWD staff reviews construction inspection deposit balance and refunds surplus funds after project file is closed or requests additional fees to cover construction inspection costs.

G. As-Built Plans

At the completion of construction, As-Built drawings signed by the Engineer of Record shall be submitted to LWD. Said plans shall be corrected to conform to the work as constructed. LWD will review the plans for completeness and will require resubmittal, if necessary. After LWD approval, As-Built Plans, including one (1) redline copy, the original "Mylars," and a digital copy shall be submitted to LWD. This As-Built process shall be completed prior to filing of the **NOTICE OF COMPLETION, APPENDIX M**.

H. Final Approval and Acceptance of Sewer Facilities by LWD

The following process shall govern Final Approval and Acceptance of the sewer facilities by LWD:

1. After receipt of Field Approval, LWD directs Owner to prepare and timely file (within 15 days of completion) **NOTICE OF COMPLETION, APPENDIX M**, with County Recorder for recordation. Within fifteen (15) days thereafter, notice of the filing shall be sent (via registered or certified mail, or by first-class mail, evidenced by a certificate of mailing) to all contractors hired by SUBDIVIDER and all other potential claimants that provided preliminary 20-day notices. SUBDIVIDER shall provide DISTRICT with a copy of the recorded **NOTICE OF**

- COMPLETION, APPENDIX M**; and proof that all notice requirements have been satisfied.
2. **NOTICE OF COMPLETION, APPENDIX M**, is posted for 60 days (30 days for mechanics liens and 60 days for original contractor lien) by County Recorder to trigger the deadline for the filing of liens;
 3. On or before the time the Notice of Completion is filed, Owner shall submit an executed **DEDICATION OF SEWERS FORM, APPENDIX N** to LWD;
 4. After at least 65-days have passed since the filing of the **NOTICE OF COMPLETION, APPENDIX M** and upon receipt of the executed **DEDICATION OF SEWERS FORM, APPENDIX N**, confirmation that there are no outstanding liens related to the project, confirmation that all outstanding punch list items have been completed, submittal and acceptance of the soils compaction report, submittal of As-Built plans, confirmation that all Owner accounts with LWD have been made current, and completion of all other pre-acceptance items required by this Standard Spec, the facilities shall be referred to the General Manager for final acceptance;
 5. Final Acceptance, with the exception of private building facilities and Sewer Laterals, of Sewer Facilities into the LWD utility system will be made by the LWD General Manager, by execution of the **NOTICE OF ACCEPTANCE, APPENDIX G**. The Notice of Acceptance shall include a legal description of all effected properties and shall be recorded at the Office of the San Diego County Recorder. LWD may, at its sole discretion, elect to not record Notice of Acceptances that are limited to improvements located entirely within public rights-of-way and/or property owned by the District;
 6. After Final Acceptance, LWD staff exonerates 75% of Performance Bond and 100% of Materials and Labor Bond. The remaining 25% Performance Bond remains in effect for the one (1) year warranty period;
 7. After Final Acceptance, Owner shall remove any temporary sewer plugs in accordance with the Temporary Sewer Plug Plan approved for the specific project and similar to that found within the **PROTOCOL FOR PLUGGING OR UNPLUGGING SEWERS, APPENDIX U** for LWD approval; and
 8. Project file is closed. LWD issues a memo to the Owner stating the assets have been acquired by LWD.
- I. Use of Utilities for Occupancy Prior to LWD Acceptance

Subject to LWD approval, Owner may purchase and obtain sewer services for occupancy prior to final acceptance of Sewer Facilities by LWD under the conditions stated below. LWD retains discretion to deny requests for use of utilities prior to acceptance if LWD, in its sole and absolute discretion, determines that such use is not in the best interest of LWD

or the public. When allowed and prior to the purchase of sewer capacity for each connection, Owner shall meet the following conditions:

1. Execute a **TEMPORARY SERVICE AGREEMENT (TSA), APPENDIX O** with terms and conditions approved by LWD. The TSA shall be required whether or not supplemental protection of the downstream public sewer is required.
2. Sufficient funds will be on deposit in Owner's LWD account to cover anticipated LWD expenses;
3. Per current LWD Ordinance, sewer capacity and other appropriate fees and charges will be paid for each connection requested;
4. Prior to connection of any sewer service(s), the sewer system shall have been constructed in accordance with LWD specifications and requirements and received LWD approval;
5. Owner shall submit an updated or new **PROTOCOL FOR PLUGGING OR UNPLUGGING SEWERS, APPENDIX U** for LWD approval.
6. During any period of non-use or use of the sewer prior to LWD acceptance, Owner shall be responsible for sewer maintenance and cleaning, as necessary and/or as required by LWD;
7. Construction bonds shall not be reduced or released; and
8. Prior to the connection of the last sewer service, the project shall be referred to LWD's General Manager for acceptance.

J. One Year Warranty Period

1. Owner and Owner's Contractor shall guarantee all work for the subject facilities' including work associated with removal of temporary plugs, against defective materials and workmanship, against settlement of backfill, and damage to pavement for a period of one year from the date of execution of the **NOTICE OF ACCEPTANCE, APPENDIX G**, by LWD. Owner shall require the same written guarantee by Contractor in the Construction Contract for the subject facilities. Owner shall furnish to LWD, at no expense to LWD, a warranty bond for the performance of the foregoing guarantee, or other means acceptable to LWD, in the amount of twenty-five percent (25%) of the Owner submitted and LWD approved construction value of the project.
2. When defective material or workmanship is discovered in the work requiring repairs or replacement to be made under this guarantee, all such repair or replacement work shall be completed by Owner at his own expense within ten (10) days after written notice has been given to him by LWD. Should Owner fail to complete repair or replacement of the work as directed within ten (10) days, LWD

may make the necessary repairs or replacement and charge Owner with the actual cost of all labor and materials required. In emergencies demanding immediate attention, LWD shall have the right to repair or replace the defect or damage and charge Owner with the actual cost of all labor and material required.

3. Any collateral damage, including damage to other LWD property or other third party property caused by a defect in materials or workmanship during the warranty period, including LWD expenses, shall be borne solely by Owner through reimbursement to LWD, or LWD use of Owner posted Performance Bonds. This section does not otherwise limit Owner's liability for defects under the law.

K. Reimbursement Agreements

1. Where LWD determines in its sole discretion that an Owner is eligible for reimbursement for part of the cost to construct off-site and/or over-sizing on-site facilities, Owner shall be notified of the opportunity and option to execute a written **REIMBURSEMENT AGREEMENT, APPENDIX H**, prepared by LWD. Only those design fees and actual project and construction costs approved by LWD in its sole discretion will be allowed for reimbursement under the agreement. Reimbursable Costs shall be limited to the actual cost to design, permit, and construct sewer facilities, less the portion attributable to providing sewer service to Owner's property as determined by the District Engineer. Owner shall provide the District Engineer with a summary of actual costs and receipts in support. The District Engineer shall have sole discretion to determine if the actual costs are reasonable. Costs determined to be eligible for reimbursement shall be reimbursed only as other customers of LWD connect to facilities for which the reimbursement is allowed. Reimbursement Agreements must receive final approval from the LWD Board of Directors.
2. The maximum reimbursement amount, reimbursement fee, and interest on the reimbursement amount shall be determined in accordance with the reimbursement agreement. The reimbursement agreement will automatically terminate on the earlier of ten (10) years from the date of its execution or the date upon which Owner has received the amount eligible under the reimbursement agreement. LWD, may in some circumstances, approve a request to extend reimbursement agreements for an additional ten (10) years.
3. Reimbursement agreements are an accommodation to Owners and not a guarantee or promise of full or, even, partial repayment.

1.09 Fees

A. Annexation Fees

1. A minimum LWD processing deposit is required for review of proposed annexation to LWD, as determined by LWD at the time of review.

2. The Local Agency Formation Commission (LAFCO) requires a fee for processing an annexation and a County Recorders filing fee.
3. The State Board of Equalization requires a fee for processing of annexations depending on acreage. The State Board of Equalization fees shall be processed through LAFCO and only after LAFCO approval.

B. Improvements Plan Check Fees

1. Any Owner desiring Tentative Map, grease control device, or improvement plan checking shall pay to LWD the full cost of plan checking. An **APPLICATION FOR PLAN CHECK, APPENDIX I**, shall be filled out by the Private Engineer or Owner submitting the plan and submitted with a deposit for the estimated cost of plan checking. The deposit for plan checking shall be determined in the LWD fee schedule available from LWD. The estimated cost of plan checking is based on two (2) plan checks and the approval process. If additional plan checks are required, additional plan checking fees will be required. The amount of these fees will be determined by LWD District Engineer based on the anticipated additional plan checking required.
2. If Owner's total plan check payments exceed LWD's total cost for plan checking, the difference shall be refunded to Owner or applied to Inspection Fees. If Owner's total payments for plan checking are less than LWD's total costs, Owner shall pay the difference to LWD prior to approval of the sewer improvement plans.

C. Easement and Encroachment Permit Processing Fees

1. For each private contract requiring the processing of sewer easements or Encroachment Permit, Owner shall pay LWD the full cost required to process the sewer easement(s) or Encroachment Permit(s). The estimated cost of the sewer easement processing or Encroachment Permit fee is included on the LWD fee schedule. In addition, the report and a policy of title insurance insuring the easement in favor of LWD shall be furnished at the sole cost of Owner.

D. Grading Plan Check Fee:

1. When required by the local grading plan jurisdiction, LWD will review private development grading plans for compliance with the LWD Standard Spec. Owner shall pay for the full cost of the review at the time the plans are submitted to LWD. The cost of the grading plan check is dependent upon the complexity of the grading plan, as designated in the current LWD fee schedule. For projects with extensive grading or special circumstances, LWD will request early application and additional deposit for plan checking.

E. Accessory Dwelling Unit Agreement Processing Fees:

1. LWD will review accessory dwelling unit plans for compliance with the LWD Standard Spec and, if applicable, will require the completion of an **ACCESSORY DWELLING UNIT AGREEMENT, APPENDIX Z**. Owner shall pay for the full estimated cost required to review the plans and process the agreement, if applicable, at the time the plans are submitted to LWD. The cost is dependent upon the complexity of the project, as designated in the current LWD fee schedule.

F. Underground Structure Drain Sewer Connections:

1. When required by the jurisdiction having authority and when the LWD District Engineer determines it will not detrimentally impact the public sewer system, LWD will accept incidental flows from underground structure drains, such as those in parking garages, to the public sewer system. These underground structure drain systems require review and approval by the LWD District Engineer and are subject to flow restriction and any additional conditions the LWD District Engineer determines are necessary to protect the public sewer system. See Division 1 Part 3 Section 3.08(B) for additional details. All projects proposing to make an underground structure drain sewer connection must complete an **UNDERGROUND STRUCTURE DRAIN AGREEMENT, APPENDIX P**.

G. Private Pump Stations

1. In the event it is required to construct a private pump station, as determined by the LWD District Engineer, the full cost of the pump station shall be on the Owner; this includes materials, labor, fees, and plan reviews. Should the plan check payment exceed LWD's cost for plan checking, the difference shall be refunded to Owner. Ownership of the private pump station shall remain under the Owner both during and after construction. The Private Engineer shall have sole responsibility for the design of the pump station. All projects proposing to construct a private pump station must complete a **PRIVATE PUMP STATION AGREEMENT, APPENDIX S**.

LWD STANDARD SPECIFICATIONS

DIVISION 1 - SEWER SYSTEM PROCEDURES, PLANNING, AND DESIGN PART 2 - SEWER SYSTEM PLANNING

2.01 General

This section provides a description of the planning requirements for sewer improvements within the Leucadia Wastewater District (LWD). Sewer system design criteria are presented in Division 1 - Part 3 of these standards.

The existing LWD boundary map with individual parcels and District facilities shown is available for viewing with District staff assistance using the Geographic Information System (GIS) software at LWD's office. Generally, the northern half of LWD is located in the City of Carlsbad and the southern half of LWD is located in the City of Encinitas. These cities govern land use and public right-of-way encroachment requirements for their respective areas of jurisdiction.

LWD's "Sphere of Influence" (SOI) for sewer service is larger than the current LWD service area boundary and includes additional service areas that are approved for annexation application to LWD by the San Diego County Local Area Formation Commission (LAFCO). The overall LWD boundary and SOI are available for viewing on the LAFCO website at https://www.sdlafco.org/home/showpublisheddocument/2586/637575_3830540.

A potential customer for sewer service must first verify that the proposed service area is currently part of LWD. If the parcels requesting sewer service are not already part of LWD, then these parcels must be within the LAFCO SOI and must be annexed in accordance with the procedures discussed in Division 1 Part 1 of these standards. Annexations may particularly be required in the "old Leucadia area", where a number of existing parcels are currently served by septic tanks, or along the perimeter borders of LWD.

- A. Service Area: Sewer service is currently provided to the areas surrounding LWD as follows:
1. North of LWD, sewer service is provided by the City of Carlsbad through the Carlsbad Municipal Water District;
 2. Northeast of LWD, sewer service is provided by the Vallecitos Water District;
 3. Southeast of LWD, sewer service is provided by the City of Encinitas through the Cardiff Sanitation Division; and
 4. Southwest of LWD, sewer service is provided by the City of Encinitas through the Encinitas Sanitary Division.

2.02 Flow Estimate

Sewer flows shall be calculated using appropriate industry standard techniques. The flow estimates must account for proposed upstream development using land use projections.

A. Drainage Basins:

1. Site specific drainage basins should be established using an appropriate topographic map. Sewers should be laid out to flow by gravity to the collection system. Pump stations should be avoided to the greatest extent possible.
2. Preliminary sewer planning for the area known as the "Island Area," west of Interstate 5, east of Highway 101, south of La Costa Avenue, and north of Encinitas Boulevard is contained in the LWD Island Area Collection System Plan, May, 2007. Most of the properties in this area are within the LAFCO recognized LWD Sphere of Influence and require formal annexation through LAFCO, as described in Division 1 – Part 1 of these Standard Specs. The Island Area sewer planning generally requires new sewers to be located within existing streets and at a pre-determined required minimum depth. New sewers in the Island Area shall meet the requirements of both the LWD Standard Specs and the LWD Island Area Collection System Plan, copies of which are available for reference at the LWD office.

B. Land Use: Ultimate land use projections shall be used for estimating wastewater flows from developments. The ultimate land use designations and population densities shall be based on the Encinitas and Carlsbad General Plans.

C. Flow Estimates: Flow estimates shall be determined as the product of the number of equivalent dwelling units (EDUs) and a unit flow factor. Flow factors for average and peak flows are presented in the following paragraphs.

1. Average Flow - A flow factor of 215 gpd/EDU shall be used to calculate average sewage flows with an average wastewater strength of 250 milligrams per liter (mg/l) of both five-day Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS). The EDU Factors required to be used to determine the number of EDUs for a given land use are set by the LWD Board of Directors by Ordinance. The Ordinance establishes the District's Capacity Fee and Equivalent Dwelling Unit Factors Capacity Fee Schedule. A copy of the current Ordinance setting the EDU factors is available on the LWD website at: www.lwwd.org.
2. Peak Flow - Sewer pipelines must be designed and sized using peak flow conditions determined by multiplying average flows by a peaking factor. Peaking factors shall be determined based on population. Acceptable peaking factors are presented in Table 1-2-1.

TABLE 1-2-1 PEAK FACTORS^(A)	
POPULATION	PEAK FACTOR
Less than 5,000	3.50
5,000	3.10
10,000	2.88
15,000	2.75
20,000	2.66
30,000	2.53
40,000	2.44
60,000	2.31
80,000	2.22
Intervening Populations	Pro rate

^(A) As shown here or as directed by the LWD District Engineer

2.03 Pipeline Sizing Requirements

In general, gravity sewer pipelines shall be sized to achieve the minimum required velocity using open channel flow formulas at peak flow conditions. The following are other pipeline requirements:

- A. Minimum Pipeline Size: No public sewer shall be less than eight (8) inches in diameter. Service laterals shall be a minimum of four (4) inches in diameter. Minimum six (6) inch diameter laterals are required for multiple unit laterals and for commercial developments.
- B. Minimum Pipeline Slopes: Generally, sewer pipeline slopes shall be established such that open channel flow produces a minimum allowable velocity of 2 ft/sec and a maximum velocity of 10 ft/sec for peak flows at the design depths of flow noted elsewhere. More specifically, minimum slopes for a range of pipeline sizes are provided in Table 1-2-2.
- C. Design Slope: All sewer pipes shall be sized for required capacity and may require slopes greater than the minimum slopes allowed. Larger pipe sizes shall not be used to reduce slope to minimum, as compared to a more appropriate smaller sewer.

TABLE 1-2-2 MINIMUM PIPELINE SLOPES		
Pipeline Size - In.	Minimum Pipeline Slope (%)	Remarks
4	2.00	Residential laterals only
6	1.00	Multi-Unit & commercial laterals only
8	2.00	Public sewer with service to less than 10 homes
8	1.00	Public sewer with service to 11 to 40 homes
8	0.40	Minimum collection system pipeline size for service to 41 homes or more
10	0.30	
12	0.25	
15	0.15	
18	0.10	
21	0.08	
24	0.07	

- D. Single Versus Multiple Sewer Service Laterals. Individual sewer customers shall be served by individual laterals. Multi-user laterals shall only be allowed when approved by the LWD District Engineer.
- E. Pipeline Size Criteria: A Manning's coefficient of roughness of 0.013 shall be used for all pipeline conditions unless otherwise approved by the LWD District Engineer. Sewers less than 15-inches in diameter shall be designed to flow ½-full at peak flow. Sewers 15-inches in diameter or more shall be designed to flow ¾-full at peak flow.

Manning's formula for open channel flow shall be used for hydraulic calculations:

$$V = \frac{1.486}{N} \times R^{2/3} \times S^{1/2} \text{ and } Q = AV$$

V = Velocity in feet per second

N = Manning coefficient of roughness = 0.013

R = Hydraulic radius in feet = Area/Wetted Perimeter at specified depth of flow

S = Slope in feet per foot

Q = Flow in cubic feet per second

A = Cross sectional open area of the pipe in square feet

2.04 Pipeline Separation

The horizontal separation between sewer and water pipelines shall be 10 feet (outside of edge of sewer to outside edge of waterline) as required by the California State Water Resources Control Board, Division of Drinking Water criteria. Special sewer construction requirements, shown on **LWD Standard Drawing No. S-2**, are required where 10 feet of separation cannot be achieved.

Use of less than 10-feet of separation shall be specifically approved by the Division of Drinking Water and the LWD District Engineer.

The minimum horizontal separation between sewer and all other utilities is five-feet, unless otherwise approved by the LWD District Engineer. Sewer laterals shall be placed a minimum of five-feet apart along the main and five-feet from the nearest manhole. Sewer laterals shall be placed a minimum of 10 feet from water laterals.

A minimum vertical separation of one-foot shall be provided with all utilities and the sewer shall cross under water and reclaimed water pipelines, unless approval from the Division of Drinking Water is provided to LWD in writing for the specific crossing and the request is also approved by the LWD District Engineer. The vertical separation between utilities should be maximized wherever feasible.

2.05 Pipe Materials

Acceptable gravity sewer pipeline materials include polyvinyl chloride (PVC). Vitrified clay pipe (VCP) may also be used when approved by the LWD District Engineer. Materials and construction methods shall be in accordance with Division 2 of the LWD Sewer Standards (Green Book).

2.06 Grease Control Devices

- A. General: When determined by LWD that waste pretreatment is required, an approved Gravity Grease Interceptor (GGI) or Hydromechanical Grease Interceptor (HGI or grease trap) shall be installed. A GGI shall be installed at all High Food Preparation Establishments as defined by the LWD Wastewater Ordinance. Low Food Preparation Establishments, as defined by the LWD Wastewater Ordinance, may install an HGI rather than a GGI if approved by the LWD District Engineer. In general, GGIs shall be of the outdoor underground reinforced concrete type unless otherwise approved by the LWD District Engineer. The approved GGI or HGI shall be connected to the waste line leading from sinks, drains, and other fixtures or equipment in establishments such as restaurants, cafés, lunch counters, cafeterias, bars and clubs, hotels, hospitals, sanitariums, factory or school kitchens, or other establishments where grease may be introduced into the sewage system. A GGI or HGI is not required for individual dwelling units or for any private living quarters. This also includes MEHKO's, where private citizens can prepare food from a home kitchen. See the County of San Diego Department of Environmental Health and Quality for descriptions and regulations on MEHKO's. Private citizens who are permitted to operate MEHKO's are not required to install GGIs or HGIs, but shall sign a **SEWER PERMIT SUPPLEMENT (FOG), APPENDIX T1 or T2**, to reduce the amount of FOGs introduced to the sewer system. Toilets, urinals, dish-washers, and other similar fixtures shall not drain through Grease Control Devices.
- B. Requirements: The Owner is required to identify any area of the development where a GGI or HGI shall be installed. All Food Preparation Establishments require the submittal of a **SEWER PERMIT SUPPLEMENT (FOG), APPENDIX T1 or T2**, as appropriate. Sizing, construction, and installation of a GGI shall be of the outdoor underground type and shall be in accordance with these LWD Standard Specs including *LWD Standard*

Drawing No. S-26 and the California Plumbing Code most recent edition. In case of conflict, these LWD Standard Specs shall govern with regard to type and design of the GGI or HGI. Owner shall submit plan and elevation drawings, sizing calculations, and manufacturer's information with the LWD Sewer Supplement for approval by the LWD District Engineer. A Food Services Establishment may request to use an existing GCD that was previously approved and installed for the property or tenant, but the Owner acknowledges and understands that LWD will conduct a plan check for all new tenants determined to be a Food Services Establishment. If the GGI or HGI is not properly sized based on the proposed plumbing fixtures of the Food Services Establishment, the GGI or HGI must be replaced with an appropriately sized GCD.

2.07 Private Pump Stations

- A. General: Private wastewater pump stations shall be avoided whenever possible. Division 1 Part 1 of the LWD Standard Specs requires prior LWD approval and recorded legal agreement in the form of a **PRIVATE PUMP STATION AGREEMENT, APPENDIX S**, for use of a private sewer pump station. Said legal agreement is required prior to approval of tentative map, grading plan, or improvement plans.
- B. Requirements: All private pump station agreements shall include requirements that the owner acknowledges that a private sewer pump station may produce sewer gases which can lead to odor complaints and/or corrosion of sewer infrastructure. Owner shall be solely and strictly responsible for prevention of odor generation resulting in odor complaints and/or sewer infrastructure corrosion as a result of sewer gases produced by the private pump station and private force main / lateral. Private pump stations shall;
1. Comply with California Plumbing Code Chapter 7 Section 710.0,
 2. Have dual pumps,
 3. Have a high-level alarm,
 4. Have a pump failure alarm and,
 5. Have a system whereby the above alarms are noticeable from the residence (audio, visual, service, etc.)
 6. Have a maximum capacity of 35 gpm
- C. Recommendations: The following statements are recommendations specifically for LWD.
1. Install a chopper or grinder pump when feasible
 2. Establish a service contract with the pump manufacturer in the event the pumps go offline
 3. Have an alarm service contact response

2.08 Multi-Unit Lateral

A multi-unit lateral may only be used where a specific individual or organization has financial responsibility for the cleaning and maintenance of all of the connected sewer service laterals and consists of either a group of apartments under single ownership, a condominium or homeowners' association, a commercial customer with single land ownership, or as otherwise approved by the

LWD District Engineer. Division 1 Part 1 of these specifications requires prior LWD approval and a recorded legal agreement in the form of a **PRIVATE SEWER AGREEMENT FOR MULTI-UNIT LATERAL, APPENDIX R**. The minimum lateral diameter is 6-inch for a multi-unit lateral.

2.09 Accessory Dwelling Units

The District will review Accessory Dwelling Unit (ADU) plans for compliance with the LWD Standard Spec. A separate Service Lateral is generally required for ADUs that are not fully contained within the existing space of a single-family residence or accessory structure. LWD may, but is not required to, grant an exception to the separate Service Lateral requirement if the following conditions are satisfied:

- a. There is an existing Service Lateral for the main residence connected to the public sewer system and it is at least 4" in diameter or a Service Lateral is planned to be installed to the main residence as part of the compliant ADU plans;
- b. There is an existing cleanout for the aforementioned lateral or one is to be installed as part of the ADU plans;
- c. Connection of the ADU would result in no more than three dwelling units being connected to the Service Lateral;
- d. Any other terms and conditions LWD determine are necessary to ensure proper operation and protection of the public sewer system on a project-to-project basis; and
- e. Completion of an **ACCESSORY DWELLING UNIT AGREEMENT, APPENDIX Z**. By completing this agreement, the Owner agrees to pay the capacity fee for the ADU in accordance with the District's Capacity Fee Ordinance.

The District may agree to waive the requirement for a separate lateral connection to the public sewer system if the above requirements are met. Instead, the District will allow the ADU to connect to the existing private Service Lateral serving the property or directly to the main residence. Any new Service Lateral must be reviewed and approved by the LWD District Engineer and this exception will be allowed at the discretion of the District on a project to project basis. The same rules and stipulations apply to JADU's.

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LWD STANDARD SPECIFICATIONS

DIVISION 1 - SEWER SYSTEM PROCEDURES, PLANNING & DESIGN PART 3 - SEWER SYSTEM DESIGN

3.01 General

Division 1 Part 2, Sewer System Planning, provided a description of the planning guidelines for sewer improvements such as flow estimation, pipeline sizing, and pipeline separation. Division 1 Part 3 describes the design requirements for sewers to be accepted for ownership by LWD as public sewers and for private facilities that will be connected to public sewer. These requirements include: preparation of plans, sewer location and alignment, minimum pipeline cover, and manhole, lateral, and pump station requirements.

The requirements of Division 1 Part 3 of the Standard Specs shall be supplemented by Division 2 of the Standard Specs, which includes by reference the entire Greenbook, Standard Specifications for Public Works Construction, 2021 edition, as modified by the LWD Standard Specifications.

3.02 Improvement Plans

Improvement Plans shall be presented on "D" size sheets with dimensions and Title Block conforming to the requirements of LWD and the jurisdictional city. All Improvement Plans shall include the following in accordance with guidelines established herein. Improvement Plans shall be free of advertising, insignia, labels, emblems, or other markings not relevant to the work. When approved and accepted by the LWD District Engineer, such plans shall become the property of the Leucadia Wastewater District.

- A. Title Sheet: In addition to the city requirements, the title sheet shall include at a minimum: a vicinity and location map; key map; LWD approved basis of elevation, coordinates, and basis of bearing; notice and phone number for Underground Service Alert; legend (including quantities); LWD "Public Sewer System Approval" signature block; LWD Sewer Notes; list of abbreviations; and statement of the Engineer of Work or Responsible Charge. The location map shall be at 200-scale and shall include the sewer pipelines and numbered manholes. LWD Sewer Notes may be placed on the title sheet or subsequent sheets, if necessary. The project title and submittal number shall be placed just outside the border on the right-hand edge of the title sheet. *LWD Standard Drawing No. S-20* provides an example title sheet for privately developed public sewers.
- B. GIS Table: A Geographic Information System (GIS) Table shall be included in each set of plans. The table shall contain information on the proposed manholes and proposed sewer system according to *LWD Standard Drawing No. S-22*. The basic information required includes: Manhole ID number, upstream manhole coordinates; length of pipe between manholes; pipe size, material, and slope; manhole location, rim elevation, invert elevation(s) in and out, depth, type, number of connections; and manhole lining type by material.

C. Plan and Profile Sheets:

1. General: Plan and profile sheets shall be prepared at a scale of one-inch equals forty feet horizontally (1:40H) and one-inch equals four feet vertically (1:4V). A one-inch equals eight feet vertical scale may be used if necessary. Plan and profile sheets shall include; scale, north arrow(s), benchmark information, and a sewer data table showing pipeline bearing and curve data. Special details, if necessary, may be required on the plan and profile sheets. Structures shall be numbered sequentially from the downstream end of the system or as provided by the District.
2. Plan Strip: The plan strip shall include; lot lines and numbers, driveway limits, alignment of sewer pipeline, location of sewer laterals and pipeline appurtenances, all existing and proposed utilities that run parallel or cross the proposed pipeline, easements, all horizontal alignment data, including stationing, pipeline bearing and curve data, and location and description of existing and proposed structures; limits and locations of street right-of-way, curb and gutter, sidewalk, and all existing and proposed utility easements; etc. Sewer stationing shall normally follow the stationing of the street centerline with sewer on street centerline, but may in some cases be allowed to follow sewer stationing at the request of the Private Engineer and at the review and approval of the LWD District Engineer.
3. Profile Strip: The profile strip shall include; pipeline profile with pipe diameter, length between structures, material and slope, pertinent horizontal data such as stationing and offsets shown on a screened profile grid, existing and final (proposed) ground surface grades over pipe, and existing and proposed utilities that cross the proposed pipeline. Where connection is made to an existing pipeline between manholes, the following note shall be added to the plans, "Contractor shall field survey (pothole) existing pipe invert elevation and submit survey data to LWD for approval prior to connection."

In the event that the ground surface at the property lines paralleling the sewer is lower than the surface over the sewer so that the difference in elevation would require the main line sewer to be lower than otherwise needed to provide building sewer connection at the required minimum depths, the ground surface at the property line(s) shall be shown as a short dash line and designated by a note "Ground Surface at (North, South, East, or West) Property Line." In addition, the finished building pad elevation, lateral invert elevation at the center of building pad, and lateral length to property line at the lateral connection location shall all be shown on the drawings. Minimum required lateral slopes shall be provided.

In the event that the house pad is lower than the top of manhole cover of the next upstream manhole of the public sewer, then the private house lateral shall be constructed with an approved backwater valve. This is also a requirement of the California Plumbing Code.

- D. LWD Improvement Plan Sewer Notes: LWD Sewer Notes shall be included in all sewer improvement plans. The notes are included as ***LWD Standard Drawing No. GN-1 through GN-7*** and are subject to revision by LWD. Developers should contact LWD for the latest edition.
- E. Sewer Lateral Tables: A Sewer Lateral Table shall be included in the Improvement Plans for all laterals. An example of the acceptable format for the Sewer Lateral Table is shown on ***LWD Standard Drawing No. S-24***. The lateral table shall, at a minimum, include:
1. Lateral Sequence Number;
 2. Building Lot Number;
 3. Sewer Station (at lateral connection to sewer main, sometimes same as street stationing);
 4. Invert at Main (invert elevation of collection sewer at point of lateral connection);
 5. Length (distance from main centerline to property line);
 6. Drop to Main (required per Table 1-3-1, Drop to Main);
 7. Invert Elevation of Lateral at Property Line;
 8. Slope in % = $\frac{((\text{Item 7} - (\text{Item 4} + \text{Item 6})) * 100)}{(\text{Item 5} - 2.0)}$ -- (which should be greater than 2% for a 4-inch diameter lateral or 1% for a 6-inch diameter lateral. The 2-feet subtracted from Item 5 in this formula is the approximate length of the connection wye and 1/8th bend along the length of the sewer service lateral.);
 9. Ground Elevation at Property Line (top of curb or edge of pavement);
 10. Depth at Property Line;
 11. Pad Elevation (lowest top of floor elevation of building being served);
 12. Upstream MH Rim Elevation;
 13. Backwater Valve Required – Yes or No (backwater valve required on lateral when the upstream manhole rim elevation is higher than the building pad);
 14. Remarks (Such as "Deep Cut Lateral")

TABLE 1-3-1 DROP TO MAIN							
Sewer Main Size, In.	8	10	12	15	18	21	24
Drop To Main, Ft.	1.2	1.3	1.4	1.8	2.0	2.2	2.4

- F. LWD Minor Grading Plan Lateral Notes: LWD Standard Sewer Lateral Notes for Minor Grading Plans and Lateral Plans without new mainline public sewer are included as *LWD Standard Drawing No. LN-1 through LN-4*.

3.03 Sewer Main Design

- A. Sewer Pipe Material. All new sewer pipe installed within LWD shall be PVC Sewer Pipe with Standard Dimension Ratio (SDR) 35 per Greenbook. Other thicker PVC materials and/or modified pipe zone materials shall be required for deeper installations, as required in this Standard Spec. Vitrified Clay Pipe (VCP) shall only be used as specifically allowed or directed by the District Engineer.

B. Sewer Alignment

1. General. In general, sewers should be located on the centerline of streets or easement. Pipelines should not be located under median strips or parking lanes. Sewers shall be placed on straight lines between structures wherever possible.
2. Change in Direction. The maximum change in direction allowed along any sewer main is 90° for pipelines 15 inches in diameter and less, and 45° for pipelines 18 inches and greater.
3. Easements. All LWD easements shall be exclusive, unless otherwise permitted by the LWD District Engineer. The minimum sewer easement width shall be 20-feet and the distance of the centerline of the sewer from edge of easement shall be 10 feet, unless otherwise approved by the LWD District Engineer. Access to facilities shall be via a road consisting of 4-inch (minimum) Class 2 aggregate base with a maximum slope of six (6) percent, unless otherwise approved by the LWD District Engineer. It is not advised to place permeable pavers within LWD easements. Where necessary the permeable pavers shall have a high enough load rating for LWD's vector truck and owner shall be responsible for repairing and replacing pavers should the sewer need to be repaired or replaced, or if LWD access is necessary for system maintenance.

Any sewer easement encroachment not addressed in the original sewer easement grant deed requires a supplemental encroachment permit.

Only where approved by the LWD District Engineer, easements may be non-exclusive under the following conditions: the minimum outside clearance from other utilities is five feet except that for water or reclaimed water the required outside clearance separation is 10 feet. The minimum distance of the centerline of the sewer from edge of easement or other authorized and permitted encroachment, such as a building roof overhang or other obstruction, shall be 10 feet.

4. Utility Crossings. Sewers shall cross other utilities at a perpendicular angle, unless otherwise approved. In any case, utilities crossing at a skew angle of 75° or less shall be avoided.

5. Horizontal Curves. Horizontal curves shall be avoided whenever practicable. Horizontal and vertical curves are not permitted in the same length of pipe. The minimum radius of any horizontal curve is 200 feet. The maximum length of any curve is 300 feet. Horizontal curve requirements for flexible (PVC) pipe are given in the following tables.
- a. Curvature in AWWA C900 and AWWA C905 PVC "Pressure Water" Pipe and Ductile Iron Pipe shall be accommodated solely through joint deflection with axial bending not allowed. Allowable joint deflection shall be one-half of the deflection allowed by the pipe manufacturer's catalog literature. Such literature shall be submitted to the LWD District Engineer for review and approval.
 - b. Curvature in SDR 35 PVC Sewer Pipe - Longitudinal bending (up to 15-inch diameter pipe) of SDR 35 PVC pipe with gasketed joints is allowed through axial flexure of the pipe. Mechanical means shall not be allowed to accomplish these radii. The curvature shall be accomplished in the trench by the Owner. The curve shall be accomplished by bending of the pipe without deflecting the joints. Over-belling of joints shall be avoided. Minimum radii shall be per Table 1-3-2.

Pipe Size (inches)	Radius (feet)
4 to 8	200
10	250
12	300
15	350

- c. All sewers, particularly curved sewers, shall be final inspected by color Closed-Circuit-Television (CCTV) in accordance with National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) standard methods. A digital color CD or DVD shall be recorded in the presence of the LWD Inspector and presented to LWD. The video shall be in color and show stationing and locations of all manholes and laterals. The Developer and/or Contractor shall bear all costs for the CCTV inspection process.

C. Sewer Profile:

1. Pipe Bedding and Pipe Zone Requirements

Maximum depth of pipe is 20-feet unless specifically allowed deeper by the LWD District Engineer.

Provide a crushed rock bedding and pipe zone in accordance with Green Book Section 306-6.3 and per *LWD Standard Drawing No. S-11* for:

- a. SDR 35 PVC sewer pipe in native sand, gravel, or saturated topsoil from 4-feet to 15-feet deep;
- b. SDR 26 PVC sewer pipe in native sand, gravel, or saturated topsoil from 15 to 30 feet deep;
- c. As an alternative to SDR 26 PVC sewer pipe, AWWA C900/C905 PVC pressure pipe may be used in native sand, gravel, or saturated topsoil from 15 to 30 feet deep;
- d. VCP in dry or wet clay soils from 4-feet to 13-feet depth; and

VCP in dry or wet clay soils between 13-feet and 30-feet of cover shall utilize controlled low strength material (CLSM) with 300 psi compressive strength, that is mixed in accordance with “Guidelines for Controlled Low Strength Material (CLSM) Mix Design, Placement and Testing for Use as a Bedding Material for Vitrified Clay Pipe” and is installed in accordance with ASTM C12-09, “Standard Practice for Installing Vitrified Clay Pipe Lines” and the VCP CLSM Encasement detail shown on *LWD Standard Drawing No. S-15*.

Greenbook Section 200-1.2 ½-inch gradation crushed rock shall be used in the bedding zone for pipe up to and including 16-inch diameter and ¾-inch rock shall be used for piping larger than 16-inch. The Owner's engineer shall submit a special design with trench load and pipe deflection calculations for all pipe with greater than 30 feet of cover.

For VCP or PVC pipe in areas of high ground water, or suspected high ground water, all crushed rock bedding shall be encased in an approved geotextile fabric. The improvement plan engineer of record or project geotechnical engineer shall submit a recommended geotextile suitable for the in-situ soil conditions for approval by the LWD District Engineer.

To inhibit longitudinal flow of groundwater in the crushed rock pipe zone in areas of high ground water, or suspected high ground water, 1-foot long clay soil cutoffs shall be installed in the pipe zone and shall extend at least one foot into undisturbed soil on both sides of the trench. The clay soil cutoffs shall be the full height of crushed rock subgrade and pipe zone material. At least one clay soil cut off shall be located between sewer structures in all areas of high, or suspected high, ground water.

2. Minimum Sewer Cover: The minimum sewer pipeline cover in streets, measured vertically from the pipeline invert to the finished grade, shall be seven (7) feet. Greater depths may be required where it is necessary to extend sewers to serve other areas, or to achieve a 5.5-foot depth of the laterals at the property line. In off-street areas, a minimum cover of four (4) feet may be considered for approval by the

LWD District Engineer provided sufficient erosion protection and depth for sewer extension to unsewered areas are satisfied.

3. Maximum Depth of Sewer: The maximum depth of sewer shall be 20 feet of cover over the top of pipe, unless otherwise approved. The maximum depth of sewer is based on sewer cleaning access requirements. Request for approval for deeper sewers shall include a sewer alignment and profile study showing that no other way of providing a sewer less than 20 feet of cover is possible. The request is subject to review and approval of the LWD District Engineer. Structural calculations must also be provided for all manholes with a depth of 20 feet or more.
4. Private Sewers and Multiple Unit Laterals: Use of Private Sewer Facilities including sewers and multi-unit sewer laterals are not favored by LWD and such use is subject to review and approval of the LWD District Engineer with the acknowledgement that the facilities may be necessary in some cases. If approved for use by LWD, private sewer facilities would not be dedicated to LWD and would remain the responsibility of the sewer customer for ownership, operation, and maintenance. If allowed, written approval from the jurisdictional building permit city for such private sewer facilities shall be provided to LWD. Approval of a multi-unit sewer lateral requires Owner execution of a **PRIVATE SEWER AGREEMENT FOR MULTI-UNIT LATERAL, APPENDIX R**.
5. Pipeline Slopes: Pipeline slopes shall be established to provide a minimum velocity of 2 feet/second and a maximum of 10 feet/second. Should the predicted velocity exceed 10 feet/second, special design (concrete encasement and AWWA C900 or C905 PVC pipe installation) requirements shall apply. Pipeline slopes shall be as uniformly continuous as practical.
6. Vertical Clearance: The minimum vertical distance between sewers and other utilities shall be one (1) foot. Special design is required for sewer laterals or gravity mains over water lines, see *LWD Standard Drawing No. S-2*. Sewer force mains are not permitted over water lines.
7. Vertical Curves: Reverse curves are not permitted and vertical curves should be avoided whenever practicable. If vertical curves cannot be avoided, special design calculations should be provided to the LWD District Engineer for review and approval.
8. Cut-off Walls: In steep unpaved areas, pipe (and trench) shall be protected by cut-off walls per *LWD Standard Drawing No. S-16*.
9. Connection of Collection Lines with Different Diameters. The crown elevations of connecting pipes shall be matched at manhole junctions.

3.04 Manholes

All manholes, except as noted below in paragraph 3.04 I, shall be constructed in accordance with *LWD Standard Drawing Nos. S-3, S-4, and S-5*. Each precast manhole manufacturer shall be pre-

approved by LWD based on manufacturer submittal of materials and procedures. Such pre-approval shall be updated at time of any material or procedure changes by manufacturer.

- A. Manhole Size: Manholes shall be four (4) feet in diameter for pipelines 15 inches and less; five (5) foot diameter manhole shall be used when pipe diameter exceeds 18 inches or when depth exceeds 12 feet. Scaled detail plans shall be provided for all manholes with multiple angled inlets and outlet with adequate clearance provided between manhole base penetrations to assure clearance and water tightness.
- B. Manhole Location: The maximum allowable spacing between manholes is 350 feet for pipelines up to, and including, 18 inches in diameter, and 400 feet for pipelines greater than 18 inches.
1. Manholes shall be placed at the following locations:
 - a. Changes in direction,
 - b. Changes in grade,
 - c. Changes in pipe size or material,
 - d. At intersection of mains,
 - e. At the beginning and end of vertical curves (if allowed) of 200 feet or longer, or
 - f. At the terminus of dead-end sewers.

Where the change in grade of the incoming and outgoing pipelines is greater than 10%, or the potential for a hydraulic jump in the manhole exists, the grade change shall be made in a smooth vertical curve with a manhole 25 feet downstream from where the sewer levels out to a lesser grade.

2. Manholes shall not be located in the following locations:
 - a. Inaccessible areas,
 - b. Highly vegetated or environmentally sensitive areas,
 - c. Gutters and other depressions or areas subject to inundation,
 - d. In sidewalks or crosswalks,
 - e. In freeway ramps,
 - f. Within railroad right-of-way or within 10-feet of outside edge of railroad right-of-way. Maximum distance with allowable manhole spacing to maximize distance away from railroad right-of-way,
 - g. In driveways, or
 - h. Within 15-feet of any structures.
- B. Invert Drops Across Manholes: A minimum drop across a manhole of 0.10 feet and a maximum of 0.60 feet shall be used on a straight-through line for pipelines 15 inches in diameter and less. When the incoming and outgoing pipelines are at the same slope, the

drop across the manhole shall match that slope. For a 90° bend through the structure, a minimum of 0.20 feet and a maximum of 1.00 feet shall be used.

For pipelines of 18 inches and greater, the drop across a manhole shall be per the following formula:

$$\text{Drop in feet} = \frac{-D \times (S_1 + S_2)}{2} + 0.1$$

Where D equals the inside diameter of the manhole, S₁ equals the invert slope entering the manhole, and S₂ equals the invert slope leaving the manhole. (All dimensions in feet and slopes are feet/foot.) Calculations shall be provided for review with final requirements summarized on the plans in a data table.

Provide a minimum 0.2-foot drop from any new sewer side inlet invert elevation to any new manhole sewer outlet elevation. All sewer inlets shall have matching crown elevations.

- D. Drop Manholes: Drop manholes may only be used with approval of the LWD District Engineer. Drop manholes may be allowed when two collection lines have a vertical difference of 4-feet or more and are connected at a manhole. Construction shall conform to **LWD Standard Drawing No. S-5**.
- E. Shallow Manholes: Shallow manholes may only be used with approval of the LWD District Engineer. Shallow manholes may be allowed when the minimum depth of sewer of seven feet cannot be obtained. Construction shall conform to **LWD Standard Drawing No. S-27**.
- F. Terminal Manholes: All sewer mains shall end in terminal manholes unless otherwise approved by the LWD District Engineer and shall be constructed in accordance to **LWD Standard Drawing No S-31**. If a sewer main is anticipated to be extended in the future it shall still end with a terminal manhole and the channel for the future extension shall be prepared at the time of construction.
- G. Composite Manhole Cover and Frame Sets: In easements and other unpaved areas, fiber reinforced polymer manhole cover and frame sets shall be used in lieu of cast-iron cover and frame sets. The composite manhole cover and frame sets shall be traffic rated, locking, and also allow easy removal by one person. Additional product specification and construction requirements are included in this Standard Spec in Division 2 Greenbook Modifications.
- H. Manhole Lining: All new manholes shall be lined in accordance with Division 2 Table 502-1.1 of this document and/or **LWD Standard Drawing S-33**. The chimneys of all new manholes shall be provided with Epoxy or Integrally Locking PVC lining. For 8-inch diameter sewer mains, manhole bases shall be cast-in-place and properly prepared, coated, and tested with an Epoxy Protective Lining System per Section 500 of the Greenbook. Alternatively, the bases may also be precast with Integrally Locking PVC lining, Predl Systems bases, or Armorock™ polymer concrete bases. For all sewer mains larger than 8 inches in diameter, the base shall be lined as directed by the LWD District Engineer.

Armorock™ manholes or Predl lining may be required in high risk areas (such as but not limited to force main discharges and shopping centers), as determined by the District Engineer. All existing unlined manholes with new connections shall be properly prepared, coated, and tested with an Epoxy Protective Lining System per Section 500 of the Greenbook. All existing lined manholes with new connections shall be inspected and repaired, as needed, with the lining system that matches the existing lining for that manhole. All manhole lining and repairs shall be installed by a trained and certified contractor. Credentials shall be provided to the Inspector prior to the start of the work. Exceptions or variations to these manhole lining requirements may be considered on a specific case-by-case basis by the District Engineer.

- I. Manhole Riser Rings: Whenever existing LWD manhole frame and covers need an increased height adjustment to adjust to paving overlays, LWD subject to City approval, allows the installation of concrete riser rings to achieve a height adjustment typically between 1-inch and 2-inches per riser ring depending on the existing frame and cover model, and availability of riser rings. Construction and installation of manhole riser rings shall conform to *LWD Standard Drawing No. S-29*.
- J. Plastic Manholes: Plastic manholes will be considered for approval by the District on a case by case basis. Full product material specification and installation procedures shall be submitted for LWD review and approval for each project where plastic manholes are proposed. Submittal detail for frame and cover support, concrete corrosion protection of frame support, and for sewer connection details shall be provided for review and approval.
- K. Other Manholes Systems: LWD allows the use of Geneva Armorock™ polymer concrete manhole systems and precast concrete that includes Predl Systems liners and bases. These may be required in certain locations (such as but not limited to force main discharges and shopping centers) at the discretion of the LWD District Engineer.

3.05 Sewer Laterals

- A. Standard Service Laterals: Each lot shall be served by at least one service lateral that extends from the main to the property line parallel to the street. Laterals shall not be placed in driveways or within five (5) feet of the property line between lots.

Laterals shall be placed perpendicular to the sewer main and no laterals shall be connected to manholes. If necessary, laterals may enter the main up to 45 degrees from perpendicular on the upstream side of the main. Laterals shall be spaced a minimum horizontal separation of ten (10) feet from water service laterals and water mains. Laterals shall be spaced a minimum horizontal separation of five (5) feet from all other utilities or structures, including adjacent sewer laterals, and manholes.

Bends are not allowed in laterals without the approval of the LWD District Engineer. Only when bends are approved, they shall be provided with cleanouts at each approved bend per *LWD Standard Drawings No. S-25*.

The minimum size of service laterals is 4-inches for residential properties and 6-inches for commercial properties or single owner multi-unit properties. The diameter of a sewer lateral shall be at least 2 inches less than the diameter of the sewer main to which it is connected.

Residential 4-inch laterals shall be placed at a minimum slope of two (2) percent (2 feet per 100 feet). A one (1) percent slope (1 foot per 100 feet) is acceptable for 6-inch laterals.

A standard residential cleanout shall be provided at the property line on every sewer lateral to allow closed circuit television inspection of the lateral. Residential cleanouts shall be in accordance with *LWD Standard Drawing No. S-25*.

Laterals shall be placed with a minimum drop to main per *LWD Standard Drawing No. S-24* (measured as the vertical distance between the centerline of the main and the invert of the lateral at the connection point). This requires that the connecting wye be installed with the branch at 45 degrees up from horizontal. The sewer lateral shall be a minimum of 5.5 feet deep at the property line.

When it becomes necessary to connect a sewer lateral to a main line sewer at a point where no wye branch has been installed in the main line sewer, a Type I or II connection shall be made per *LWD Standard Drawing No. S-32*.

The Type I connection shall only be used on sewer mains 10-inches in diameter or larger. The Type I connection shall be made by cutting open the sewer main at the 1:30 or 10:30 clock position and a gasketed PVC saddle wye with stainless steel bands and concrete installed. The PVC saddle shall be made to fit snugly on the outside diameter of the host VCP or PVC sewer. Submit materials and size to match host pipe for review and approval.

The hole in the host pipe shall be carefully cut in a non-circular shape to match a tracing through the wye onto the host pipe. The cut hole shall be approximately ¼-inch larger on its entire perimeter than the shouldered opening of the PVC saddle such that the shoulder fits neatly into the cut hole and the saddle gasket fully engages the exterior of the host pipe. Holes cut with jagged, pointed, or cracked edges shall not be acceptable and shall be replaced with a Type II connection. Type I connection shall be entirely encased with 3,250 psi concrete at least six (6) inches thick for one-foot each side of the saddle wye.

The Type II connection shall be installed by cutting two cross-sections in the main line sewer pipe and placing the wye between the two sections and securing the wye snugly in place by use of PVC repair couplings for PVC host pipe and Fernco 5000 Series shielded repair couplings for VCP host pipe or as otherwise approved by the LWD District Engineer. Submit materials and size of pipe and coupling on both ends for review and approval. Provide a maximum ¼" spacing between pipe ends within the repair coupling. The connection shall be entirely encased with 3,250 psi concrete at least six (6) inches thick for one-foot on each side of the repair couplings.

Prior to making a Type II connection, a bypass plan shall be submitted to the LWD District Engineer for approval. LWD will provide the Private Engineer or Contractor with average

and peak flows to appropriately size the bypassing method and determine which of the following categories the project lies within:

1. As allowed by the LWD District Engineer, for sewer connections with less than 25 EDUs upstream, the Contractor may temporarily plug the manhole upstream of the connection for a maximum of one hour. The plug must be installed in the presence of the LWD Field Inspector and the manhole upstream of the plug must be monitored at all times to prevent a sewage spill. If at any time the LWD Field Inspector deems plugging the sewer is unsafe or unacceptable, it shall be immediately removed and replaced with a sewage bypass as described below.
2. For all other bypass plans, the Contractor shall provide an alternative method of bypassing to be reviewed and approved by the LWD District Engineer. Possible alternatives include temporary pumping and the use of vacuum trucks.

All lateral cut-in connections Type I and II shall be CCTV inspected following installation for review and approval of the installation by the LWD District Engineer. Poor workmanship or loose-fitting connections shall be removed and redone properly or replaced with a Type II cut-in connection per *LWD Standard Drawing S-32*.

- B. Deep Cut House Connections (Laterals): In general, deep cut risers shall be used when the sewer exceeds a minimum of 12 feet in depth or when ground water exists at relatively shallow depths. Deep cut house connections shall be constructed in accordance with *LWD Standard Drawing No. S-18*.

3.06 Collector Sewer Connections to Existing Sewers

- A. General: LWD has established formal protocol for the installation and removal of temporary plugs from sewer, whether the sewer is an existing or proposed LWD dedicated facility or even a temporary conveyance sewer. The protocol has been established for the express purpose of preventing sewer spills caused by construction related activities in both the not-yet-LWD-accepted, Developer-owned, upstream sewer and in the downstream LWD wastewater collection system. Collector sewer connection to existing sewers shall be in accordance with the **LWD PROTOCOL FOR PLUGGING OR UNPLUGGING SEWERS, APPENDIX U**.
- B. Requirements: As part of each set of Sewer Improvement Plans submitted, the Developer shall include a Temporary Sewer Plug Plan for review and approval by the LWD District Engineer, which meets the requirements of **LWD PROTOCOL FOR PLUGGING OR UNPLUGGING SEWERS, APPENDIX U**.
- C. Survey: Where a proposed sewer connects to an existing manhole, the elevation of the inlets and outlets of the existing manhole shall be determined by actual survey and shown on the sewer profile as part of the improvement plan design and approval process. If the proposed sewer connection requires a new manhole on the existing main between existing manholes, the approximate elevation of the proposed manhole shall be determined by actual survey of the existing upstream and downstream manholes design and shall

thereafter be field verified by potholing and survey prior to construction of the new upstream sewer.

3.07 Grease Control Devices (GCD)

All GCDs shall be sized based on the Tenant Improvements proposed for a specific business space under review. Approval and construction of GCD sized for the maximum capacity of the kitchen drain plumbing prior to identification of Food Establishment Tenant shall not be allowed, because oversized GCD's create greater risk of odor complaints and sewer facility corrosion due to increased hydrogen sulfide concentrations with longer detention times. The GCD shall be designed, constructed, tested, and marked in accordance with the requirements of the most recently approved California Plumbing Code for FOG disposal systems.

All kitchen waste shall enter the GCD through the inlet pipe only. Shop drawings for all GCD shall be submitted to the LWD District Engineer for review and approval prior to purchase and delivery.

All Food Service Establishments shall require a **SEWER SUPPLEMENT AGREEMENT (FOG), APPENDIX T1 or T2**, as reviewed and approved by the LWD District Engineer.

High Food Preparation Establishments shall provide a Gravity Grease Interceptor (GGI), unless physically not possible as evidenced from the Owner to the full satisfaction of the District Engineer. In such cases, a one-time waiver or variance may be allowed at the discretion of the District Engineer. If a waiver or variance from a GGI is allowed, a Hydromechanical Grease Interceptor (HGI) shall be provided.

GGI shall be constructed in accordance with *LWD Standard Drawing No. S-26*. All grease interceptors shall be provided with a downstream sample box, as shown on *LWD Standard Drawing No. S-26*.

Low Food Preparation Establishments shall provide an HGI for grease removal. Limited Food Establishments will be reviewed and may be required to provide separated food area plumbing and a properly sized HGI, at the discretion of the LWD District Engineer.

3.08 Private Pump Stations and Force Mains

A. Residential Private Pump Stations: Use of Private Sewer Facilities including pump stations are not favored by LWD and such use is subject to review and approval of the LWD District Engineer with the acknowledgement that the facilities may be necessary in some cases. If approved for use by LWD, private pump stations would not be dedicated to LWD and would remain the responsibility of the sewer customer for ownership, operation, and maintenance. Additionally, LWD and its agents, including the District Engineer, are not liable in the event of private pump station failure. Approval of a private sewer pump station requires:

1. Owner execution of a **PRIVATE SEWER AGREEMENT FOR PUMP STATIONS, APPENDIX S**. All private pump station agreements shall include requirements that the owner acknowledges that a private sewer pump station may

produce sewer gases which can lead to odor complaints and/or corrosion of sewer infrastructure. Owner shall be solely and strictly responsible for prevention of odor generation resulting in odor complaints and/or sewer infrastructure corrosion as a result of sewer gases produced by the private pump station and private force main/lateral.

2. The private pump station design must comply with the California Plumbing Code, most recent addition. The pump station should have dual pumps, a high-level alarm, a pump failure alarm, and a system whereby the alarms are noticeable from the residence.
 3. The private pump station force main shall, to the extent possible, not discharge at a vertical grade break, but connect directly to the public sewer. If the property has an existing gravity sewer lateral the force main shall run inside the lateral to within 5 feet of the public sewer main. If the property does not have an existing lateral than the force main shall connect directly into the public main per *LWD Standard Drawing No. S-32*. Either force main connection shall be made per *LWD Standard Drawing No. S-34*.
 4. The pump selection for the private pump station shall be reviewed by the LWD District Engineer. The LWD District Engineer shall review the selection from the perspective of protecting the downstream LWD system and not exceeding its capacity. It is the responsibility of the Private Engineer to ensure the pump is hydraulically suitable for the project application. Unless otherwise justified by the Private Engineer and accepted by the LWD District Engineer, single-family residential private pump stations shall be limited to 35 gpm.
- B. Underground Structure Drain Connections: When required by the jurisdiction having authority and when the LWD District Engineer determines it will not detrimentally impact the public sewer system, LWD will accept incidental flows from underground structure drains, such as those in parking garages, to the public sewer system. Approval of an underground structure drain connection requires:
1. The completion of an **UNDERGROUND STRUCTURE DRAIN AGREEMENT, APPENDIX P**.
 2. A pumped connection for the drain(s) with a flow of no greater than 5 gallons per minute.
 3. The presence of a filter for the removal of FOG, located at the drain(s) or immediately upstream of the pump station.
 4. An hour meter connected to the pump station.

LWD STANDARD SPECIFICATIONS

**DIVISION 2
SEWER SYSTEM STANDARD SPECIFICATIONS**

Greenbook Modifications

PART 1 - General Provisions 2-1-3
PART 2 - Construction Materials 2-2-1
PART 3 - Construction Methods 2-3-1
PART 4 - Existing Improvements..... 2-4-1
PART 5 - System Rehabilitation..... 2-5-1
PART 8 - Landscaping and Irrigation..... 2-8-1

GREENBOOK INTRODUCTION:

Leucadia Wastewater District hereby adopts the "Greenbook", Standard Specification for Public Works Construction, 2021 edition plus latest Supplement only as prepared and published as intermediate amendments the Greenbook by Public Works Standards Inc., as the specifications to be used to establish standards of work, material, and construction procedures for improvements to the sewerage system within its boundaries. Greenbook supplements by other agencies such as the City of San Diego, the County of San Diego, or others shall not apply to work in LWD.

Division 2 of the LWD Standard Spec shall be used in conjunction with the entire text of the Greenbook. Specific exceptions, clarifications, highlighted requirements, and modifications to the Greenbook are specified herein with reference to the Greenbook Parts and Paragraphs.

If in conflict, the requirements of the entire Standard Spec, including Divisions 1, 2, 3, and Appendices, take preference over the Greenbook.

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**DIVISION 2 SEWER SYSTEM STANDARD SPECIFICATIONS
PART 1 - (GREENBOOK) GENERAL PROVISIONS**

ADD TO 1-2 TERMS AND DEFINITIONS

Definitions additional to the definitions included in the Greenbook Section 1-2 and specific to Leucadia Wastewater District are included in Division 1 – Part 1, Procedures of these LWD Standard Specs.

ADD TO 1-3 ABBREVIATIONS

Abbreviations additional to the abbreviations included in the Greenbook Section 1-3 and specific to Leucadia Wastewater District are included in Division 1 – Part 1, Procedures of these LWD Standard Specs.

ADD THE FOLLOWING TEXT TO SECTION 2-1 – WORK TO BE DONE

2-1.1 Preconstruction Meeting Requirements

Prior to construction the Owner and Contractor shall attend a preconstruction meeting with LWD Representatives and sign the **PRECONSTRUCTION MEETING AGENDA, APPENDIX V**. Any project specific requirements and those requirements of the **LWD STANDARD PRECONSTRUCTION MEETING AGENDA, APPENDIX V**, shall be discussed at the meeting prior to construction.

ADD THE FOLLOWING TEXT TO SECTION 2-2 – PERMITS

The Owner shall be responsible for providing California Environmental Quality Act compliance and obtaining all permits necessary to complete the work.

All work in existing city streets will additionally require the Owner's contractor to obtain an Encroachment Permit, if required, and Right-Of-Way Entry Permits from the jurisdictional city(ies).

ADD THE FOLLOWING TEXT TO SECTION 2-5.2 – TEMPORARY UTILITY SERVICES

Temporary sewer use for bypass requires District Engineer approval in accordance with Division 1 Part 1 Section 1.07. Temporary sewer service requires execution of **TEMPORARY SEWER SERVICE AGREEMENT, APPENDIX O**.

ADD THE FOLLOWING TEXT TO SECTION 2-6 – CHANGES REQUESTED BY THE CONTRACTOR

To avoid misinterpretation of approved changes, all changes that affect the wastewater facilities requested after LWD approval and signature of the improvement plans shall require submittal, review, and approval with requested changes shown as a change on the original drawings prior to

construction. LWD approval shall be indicated by District Engineer approval in the Revision box of the drawings having said changes.

All materials shall be inspected and work shall be performed only in the presence of LWD's authorized representative, unless otherwise allowed by said representative. All work done in the absence of LWD's authorized representative, without prior approval, shall be subject to rejection. If rejected, work will be exposed to enable proper inspection by LWD's representative. If work does not meet LWD Standards to the satisfaction of LWD's representative, it will be removed and constructed to LWD's Standards at Owner's expense. In all cases, Contractor/Owner shall obtain approval from LWD Inspector prior to: placement of concrete for manhole bases or any other sewer related purpose; sewer lateral connections; backfilling over any sewer pipe or sewer wyes.

Comply with the requirements of the Preconstruction Meeting Agenda and project related meeting discussion included in the LWD Standard Specifications as **APPENDIX V**.

The Contractor shall provide an overall project schedule and a 3-week look-ahead construction schedule for all sewer improvements. In addition, the Contractor shall request inspection from LWD at least two working days (2) in advance of any work to be done in order that inspection services may be provided. LWD inspection shall be based on the availability of LWD Staff. No inspection shall be available on weekends or holidays, unless approved by the LWD District Engineer.

ADD THE FOLLOWING TEXT TO SECTION 3-8.1 – GENERAL

Contractor shall submit two (2) copies of signed original plans and shop drawings for ALL proposed materials to LWD. At the time of submission, the Contractor shall give notice in writing in the submittal of any deviation from the requirements of the LWD Standard Specification or approved plans. The deviations shall be clearly indicated or described including all other changes required to correlate the Work. Contractor is responsible for project job site and construction safety.

It is the Contractor's responsibility to comply with all City, State, and Federal regulations regarding shoring and excavation safety. Evidence of compliance shall be provided to LWD prior to excavation. No excavation for sewer or sewer lateral facilities shall be started before final approval of shop drawings by LWD District Engineer. Submittals shall be provided for the items including, but not limited to, those items listed in **CONSTRUCTION MATERIAL LIST, APPENDIX X**.

ADD THE FOLLOWING TEXT TO SECTION 3-10 - SURVEYING

3-10.3 Private Contract Surveying

All surveying work shall be done under the direction and supervision of a Land Surveyor licensed by the State of California. Prior to beginning any phase of the survey work, the Contractor shall submit to the Inspector the Contractor's proposed plan for establishing lines and grades for control of the Project, including their plans and timetable for submitting data to the Inspector during the course of the work.

All survey data shall be recorded in accordance with standard methods approved by the LWD Inspector or Engineer. All original filed notes, computations, and other records for the purposes of layout shall be recorded in field books, or other methods acceptable to the LWD Inspector. The Contractor, immediately upon completing and reducing notes for a portion of survey, shall furnish four (4) copies to the LWD Inspector for review purposes.

The Contractor shall layout the project by establishing all lines and grades at the site and along the pipeline alignments necessary to control the project and shall be responsible for all required measurements to the location and limit marks and tolerances prescribed in these specifications or on the plans.

The Contractor shall place and establish such additional stakes and markers as may be necessary for control and guidance of their construction operations and as requested by the LWD Inspector. Grade stakes shall include the following: sewer line designation; station; invert elevation; and cut distance. Contractor shall protect in place all grade stakes and hubs during construction. If the grade stakes are removed, damaged, or knocked down during construction the stakes shall be replaced by the Land Surveyor at the Contractor's expense.

Prior to establishing any base line and grade stakes, the Contractor shall have all utility lines located and marked in the field and shall have all rights-of-way cleared to grade, and ready for construction activities.

The Contractor shall provide surveyed elevations of all constructed manholes at the end of construction and prior to acceptance by LWD. The elevation surveyed shall be the center invert elevation of the manhole channel. Such submittal shall be signed by a California licensed Land Surveyor. Variation from approved design elevations may be cause for rejection and rework.

The Contractor shall protect property and street monumentation and if such monumentation is destroyed by their operations, the Contractor shall at no cost to the Owner, have the monumentation replaced in accordance with the laws of the State of California, and in particular in accordance with State Assembly Bill 1414 including recordation, as required by law.

With no exceptions and on all projects, "Cut Sheets" shall be forwarded to the LWD Inspector prior to staking and/or excavation. Any changes to the cut sheets shall be recorded as changes and a complete set of "Record Cut Sheets" shall be submitted to the LWD Inspector.

ADD THE FOLLOWING TEXT TO SECTION 3-12.5 SANITARY SEWERS

Prior to the start of new sewer related construction, the Owner shall CCTV all pre-existing sewer to the nearest upstream and downstream manholes along segments of existing sewer which Owner will be connecting to with new sewer laterals or with new manholes or other structures. Before construction starts, Owner shall CCTV all pre-existing sewer that will be undercut regardless of vertical separation and overcut within 3-feet of vertical separation for the construction of any other utilities or for any other reason. Digital CCTV files shall be provided to LWD, shall be of a quality acceptable to LWD, and shall be re-done if insufficient for any reason in the opinion of the LWD District Engineer.

Whenever existing sewer pipe, manholes, force mains, or other LWD pipe or structures are encountered in or near the lines of trenches being excavated, Contractor shall be required to use proper care in preserving the same intact and will be held responsible for any damage to the existing facilities during the progress of the work through their failure to exercise sufficient care.

ADD THE FOLLOWING NEW PARAGRAPH TO 3-12.5.2 SEWAGE BYPASS AND PUMPING PLAN

The District will provide typical average and peak wastewater flow rates for bypass design to the Contractor. The Contractor shall submit a bypass plan designed by a Civil Engineer registered in the State of California, exceeding the capacity of the required flow rate. Pumps shall be engine driven critically silenced trailer mounted pumps. A minimum of two pumps, duty and standby, shall be provided. Full-time monitoring by a person qualified and trained to operate and maintain the bypass pumps and bypass system shall be provided.

ADD THE FOLLOWING NEW PARAGRAPH 7-0 TO SECTION 7 MEASUREMENT AND PAYMENT

7-0 NO COST TO LWD. All sewer work shall be completed as Private Contract Work. All work necessary to meet the requirements of the LWD Sewer Standards shall be done at no cost to LWD.

**DIVISION 2 SEWER SYSTEM STANDARD SPECIFICATIONS
PART 2 - SEWER SYSTEM STANDARD SPECS (GREENBOOK)
CONSTRUCTION MATERIALS**

LWD has adopted the (Greenbook) "Standard Specification for Public Works Construction," 2021 edition plus latest Supplement, as the specifications to be used to establish standards of work, material, and construction procedures for improvements to the sewerage system within its boundaries. If in conflict, the requirements of the "LWD Sewer Standards" takes precedence over the Greenbook. Specific exceptions, clarifications, and modifications to the Greenbook are discussed herein.

ADD THE FOLLOWING TO 201-1.1.2 Concrete Specified By Class and Alternate Class

Concrete used for precast concrete components and for cast-in-place manhole bases shall be 650-CW-4000 concrete with Type V cement. Concrete for pipe bedding, encasement, anchors, and thrust blocks, or wall support for pipe shall be 560-C-3250. Concrete for cast-in-place water bearing structures shall be as required and approved by the LWD District Engineer on a case-by-case basis.

Adjust quantity of water so concrete does not exceed maximum slumps specified when placed; use minimum water necessary for workability required by the part of the structure being cast. Measure consistency of concrete in accordance with ASTM C143.

ADD THE FOLLOWING TO 201-1.2.1 Portland Cement

Only Type V, ASTM C-150 Portland Cement shall be used.

ADD THE FOLLOWING TO 201-1.2.4 Chemical Admixtures

No admixtures shall be allowed with calcium chloride or triethanolamine. Admixtures used in combination shall be physically and chemically compatible and shall be so certified by each admixture manufacturer and by the Testing Laboratory that prepared respective mix design.

ADD THE FOLLOWING TO 201-1.2.5.3 Fly Ash

If fly ash is approved for concrete mix, only Class F shall be used with Type V Portland cement. Class C fly ash shall not be used, as sulfate resistant concrete is required.

ADD THE FOLLOWING TO 201-1.4 Mixing

Job mixing of concrete will not be allowed. Concrete will not be accepted without a stamped batch ticket by the weigh master. Concrete shall be deposited by truck or hopper only, use of other hand buckets is not acceptable. Exceptions to these requirements will not be allowed.

ADD THE FOLLOWING TO SECTION 201-5 CEMENT MORTAR

Where shown on plans or specified, Class C cement mortar shall be used. Mortar shall not be allowed to stand after mixing for more than thirty (30) minutes. Any rock or air pockets found in mortar shall subject such work for rejection at the discretion of the LWD Inspector.

ADD THE FOLLOWING TO SECTION 201-7.3 Non-Shrink Grout

Non-shrink cementitious grout shall be Sika Grout 212, or approved equal.

Manholes to be lined with Table 502-1.1 Manhole and Rehabilitation Lining Systems shall only use non-shrink cementitious grout that has been submitted for review and approved for use by the District in conjunction with the proposed manhole lining system.

ADD THE FOLLOWING NEW SECTION AFTER 201-7.3 Non-Shrink Grout**201-7.4 – Grout Admixtures**

Epoxy grout admixtures shall be used with cementitious grout for patching of manhole base per *LWD Standard Drawing Nos. S-3 and S-4*. Epoxy grout admixture shall be "Injection and Anchoring Resins-03930 Everset Type II", or equal, as manufactured by Sika Products, two component, epoxy adhesive and crack filler for use with Sika Grout 212, cementitious grout.

Manholes to be lined with Table 502-1.1 Manhole and Rehabilitation Lining Systems shall only use Grout Admixtures that have been submitted for review and approved for use by the District in conjunction with the proposed manhole lining system.

ADD THE FOLLOWING TO 206-3.3.2 Manhole Frame and Cover Sets and Grates

Manhole frame and cover shall be per *LWD Standard Drawing No. S-6* for standard 4-foot diameter manholes. Manhole frame and cover shall be per *LWD Standard Drawing No. S-7* for 5-foot diameter manholes. Manholes shall be four (4) feet in diameter for pipelines 15 inches and less; five (5) foot diameter manhole shall be used when pipe diameter exceeds 18 inches or when depth exceeds 12 feet. Watertight manhole frame and cover shall be provided in areas where ponding around the manhole may be possible per *LWD Standard Drawing No. S-28*.

Alternatively, and only as specifically required or as pre-approved by the LWD District Engineer, fiber reinforced polymer (composite) manhole frame and covers, as manufactured by EJ Group, Inc. may be utilized in lieu of cast-iron frame and covers. Frame and cover sets shall have AASHTO M306-10 H-20 and H-25 traffic loading requirements of 50,000 pounds with 100,000 ultimate load bearing capacity. Covers shall include markings to indicate: manufacturer, load capacity and the agency name, LWD SEWER. Cover and frame sets shall be watertight and locking where required.

ADD THE FOLLOWING TO 207-8.2.2 VITRIFIED CLAY PIPE, Dimensions and Tolerances

Pipe ends shall be perpendicular to the longitudinal axis. The socket shall be true, circular, and concentric with the barrel of the pipe within the allowable tolerances specified in the subsection. The ends of the pipe shall be so formed that when the pipes are laid together and the joints made, they shall constitute a continuous and uniform line of pipe and shall have a smooth and regular interior surface.

ADD THE FOLLOWING TO 207-9 CAST IRON SOIL PIPE

Unless otherwise approved by the LWD District Engineer, iron pipe and fittings shall not be allowed. Ductile iron fittings and pipe shall be required with PVC force mains at locations where fittings are necessary. Ductile iron pipe shall only be used adjacent to restrained joint ductile iron fittings and shall be approved on a case by case basis by the LWD District Engineer. All ductile iron pipe and fittings shall be provided with ceramic epoxy Protecto 401 lining with submittals for review and approval.

Ductile iron pipe and fittings require the following corrosion protection: one mil thick bituminous coating and two layers of 8 mil thick polyethylene bags and backfilled sand having a sand equivalent greater than or equal to 30, and may only be used with the approval of the LWD District Engineer based on detailed shop drawings submittals and review.

A project specific corrosion protection submittal shall be made with recommendations for protection from corrosion for that specific site. The submittal shall be made for the review and approval of the District Engineer. Ductile iron fittings for use with AWWA C-905 PVC require the following corrosion protection: one 1-mil bituminous coating and two layers of 8 mil thick polyethylene bags and backfilled sand having a sand equivalent greater than or equal to 30, and may only be used with the approval of the LWD District Engineer based on detailed shop drawings submittals and review. All ductile iron pipe shall be lined by a factory approved applicator with ceramic epoxy Protecto 401, or other protective lining as approved by the LWD District Engineer.

ADD THE FOLLOWING TO 207-17 PVC PLASTIC PIPE, 207-17.1 General

Wrinkles, blistering, or any interior or exterior imperfections of PVC pipe shall be subject to rejection at the discretion of the LWD Inspector.

ADD THE FOLLOWING TO 207-17.3.1 Joining Systems, General

All PVC pipe and fittings shall be furnished with integral bells and elastomeric gasket joints. All connections to manholes shall be completed using "GPK" flexible couplings in accordance with Section 208-6 of the Greenbook, unless otherwise approved by the LWD District Engineer.

For repair of all plain end to plain end PVC sewer, repair coupling shall be made of PVC material meeting the same material requirements as the pipe being repaired. The PVC sewer repair couplings shall be rubber gasketed with no center stop. Pipe ends shall be thoroughly cleaned prior to installation of the repair coupling(s). The repair coupling shall be slipped all of the way on to one plain end pipe, then the pipe and adjoining pipes shall be aligned together and the repair

coupling slipped back into a position equally spaced between the two plain end pipes. The PVC sewer repair coupling shall be as manufactured by GPK Products Inc. or approved equal for SDR 35 sewer pipe or Pure Blue for C900/C905 sewer pipe, or approved equal. Calder or Fernco rubber repair couplings shall not be acceptable.

For sewer service lateral tie-ins to existing sewer mains, one of two options shall be used per *LWD Standard Drawing S-32*; a Type I connection shall consist of a gasketed PVC saddle wye with stainless steel bands and a Type II connection requires removal of a section of the sewer main and installation of two pipe spools, two repair couplings and a wye. Type I and Type II connections shall be encased with 3,250 psi concrete six (6) inches thick for one-foot each side of the saddle wye or repair couplings. All lateral connections will be per *LWD Standard Drawing No. S-32*.

ADD THE FOLLOWING TO 208-2.1 JOINTS FOR CLAY PIPE General

Type "D" Joints for VCP shall be allowed for repair purposes only and only as pre-approved by the LWD Inspector. With the exception of occasional repairs, all other VCP joints shall be Type G Polyurethane Joints. Joints shall be mechanical compression type similar to Speed Seal, manufactured by Gladding, McBean and Company, or the Wedge-Lock, manufactured by Pacific Clay Products, or equal, and shall comply with ASTM C-425.

For sewer service lateral tie-ins to existing sewer mains, one of two options shall be used per *LWD Standard Drawing S-32*; a Type I connection shall consist of a gasketed PVC saddle wye with stainless steel bands and a Type II connection requires removal of a section of the sewer main and installation of two pipe spools, two repair couplings, and a wye. Type I and Type II connections shall be encased with 3,250 psi concrete six (6) inches thick for one-foot each side of the saddle wye or repair couplings. All lateral connections will be per *LWD Standard Drawing No. S-32*.

For repair of vitrified clay pipe (VCP) to PVC, a Fernco Industries, Inc. 5000 Series, or approved equal, will be required. Calder or unshielded Fernco rubber repair couplings are not acceptable.

ADD THE FOLLOWING TO 208-6.5 PIPE TO MANHOLE FLEXIBLE COUPLING – Installation Instructions

A "GPK" manhole connection fitting ("Sand Collar") shall be cast into the base of manholes for all connections. The connection shall be watertight and shall provide a flexible joint at the connection to the GPK fitting. The nearest pipe joint shall be at the end of the standard GPK fitting and not more than 2-feet outside of the manhole base, in any case. The invert channel in the manhole base shall be formed at the time the manhole base is constructed. No mortar will be allowed.

ADD A NEW SECTION 215 – PRECAST REINFORCED CONCRETE MANHOLES (PRCMH)

SECTION 215 – PRECAST CONCRETE MANHOLES

215-1 Precast Concrete. Precast products shall be supplied, manufactured, and fitted in accordance with the following requirements:

1. Each precast concrete manufacturer proposing to provide materials to Owners within LWD shall be pre-approved by LWD.
 - a. Each manufacturer shall submit a shop drawing for review and approval by the LWD District Engineer that specifies all relevant information regarding the precast manufacturer name, location, methods, materials, recommended installation, etc.;
 - b. All precast concrete components shall be designed and manufactured in accordance with ASTM C-478, latest edition; and
 - c. Concrete used in the manufacture of precast concrete shall be Greenbook 650-CW-4000 mixed with Type V cement, unless otherwise approved.
 - d. Precast components delivered for construction shall be inspected and approved for installation by the LWD Inspector. Precast components with rock pockets that are visible, or that have been repaired prior to delivery, will be rejected from the site.
2. All precast concrete structures installed below ground shall be subject to vacuum testing per Division 2 – Part 3 of the LWD Standard Spec.

215-1.1 Sewer Manholes. The following requirements apply to all sewer manholes constructed within LWD:

1. Owner shall only provide precast products that have been reviewed and approved by LWD within 2 years of the start of construction;
2. No manhole steps are allowed inside pre-cast sewer structures;
3. All manholes shall be lined per Division 1 Part 3 Section 3.04(H) and Division 2 Section 502-1.1.
4. All precast joints shall be filled with 2-inch by 2-inch butyl rubber gasket, such as by CPS-210 by Press-Seal, or approved equal;
5. GPK "Sand Collar" manhole adaptors shall be utilized for all manhole connections;
6. All patching within manhole bases shall be with epoxy mortar and the matching material for any existing coating.
7. A damp-proofing material shall be applied to the exterior portions of manholes as directed by the District Engineer when located at or below the water table or when moisture or seepage is indicated. The damp-proofing material shall consist of two coats of a single-component self-priming, heavy-duty cold-applied coal tar by Kop-Coat, Bitumastic Super Service Black, or approved equal.
8. Additional manhole sealing on the exterior side of new manholes at horizontal joints is required and shown on *LWD Standard Drawing No. 33*;

9. Composite manhole frame and cover (CMFC) sets shall be provided for the top of all manholes in easements and non-paved areas with the tops raised above grade. The CMFC sets shall be manufactured from fiber reinforced polymer, containing 45% to 70% fiber reinforcement in a thermoset resin matrix. The product shall facilitate easy removal and replacement by one person. The CMFC set shall have an integrated gasket system to reduce release of malodorous sewer gases. The CMFC sets shall have a rated load carrying capacity meeting AASHTO M306-10 requirements for H-20 and H-25 traffic loading. The CMFC sets shall have a 5-year material warranty and shall not degrade from ultraviolet light when subjected to continuous outdoor use. The cover shall be cast with the text “LWD SEWER” showing on the installed top of cover. A complete manufacturer’s materials, performance, and dimensions submittal shall be made for review and approval prior to use. The submittal shall show compliance with the requirements of this section. The CMFC sets shall be as manufactured by EJ Group, Inc. or approved equal.

ADD THE FOLLOWING TO SECTION 216 PRECAST REINFORCED CONCRETE BOX

216-3.7 Traps and Interceptors. The following requirements apply to all sewer traps and interceptors:

1. Grease Control Devices (GCD) shall be designed, constructed, and operated in accordance with the LWD Standard Specifications, the California Plumbing Code, and based on review and requirements of the LWD District Engineer.
2. High Food Preparation Establishments shall be fitted with an underground Gravity Grease Interceptor (GGI). Exception may be made for a retrofit tenant improvement that does not have the physical space or elevation needed for a GGI in which case a properly sized HGI may be submitted for review and approval.
3. Low Food Preparation Establishments may be fitted with a GGI or with an HGI at the discretion of the LWD District Engineer. Any exceptions must be submitted for review and approval by the LWD District Engineer.
4. Limited Food Service Establishments typically do not require a GCD. However, when required by the LWD District Engineer, based on proposed improvements, menu, or other related factors, a properly sized GCD shall be installed.
5. FOG disposal systems shall be engineered, sized, and installed in accordance with the manufacturer's specifications and as specified in (International Association of Plumbing and Mechanical Officials – Product Standard) IAPMO PS 118-2000; and
6. FOG disposal systems shall have been tested and certified as described in IAPMO PS 118-2000 and in accordance with other national consensus standards applicable to FOG disposal systems, as discharging no more than 100 milligrams per liter of FOG.

ADD TO SECTION 217 – BEDDING AND BACKFILL MATERIALS

217-1.1.1 General for LWD. Bedding material, pipe zone material, and trench backfill material shall be per the LWD Standard Specifications Division 1 Part 3 Section 3.03 (C).

217-2.3 Paving Base and Sub-base. Materials and preparation of paving, paving base, paving sub-base, and related requirements shall be in conformance with the requirements of the jurisdictional city.

ADD A NEW SECTION 218 – BACKWATER VALVES**SECTION 218 – BACKWATER VALVES**

218-1 Backwater Valves. When a fixture is installed on a floor level that is lower than the next upstream manhole cover of the public or private sewer, such fixture shall be protected from backflow of sewage by installing an approved type of backwater valve. Fixtures on floor levels above such elevation shall not discharge through the backwater valve.

Backwater valves shall have bodies of cast iron, plastic, brass, or other approved materials; shall have non-corrosive bearings, seats, and self-aligning discs; and shall be constructed so as to ensure a positive mechanical seal. Such backwater valves shall remain sufficiently open during periods of low flows to avoid screening of solids and shall not restrict capacities or cause excessive turbulence during peak loads. Unless otherwise listed or approved, valve access covers shall be bolted type with gasket, and each valve shall bear the manufacturer's name cast into the body and the cover.

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DIVISION 2 - SEWER SYSTEM STANDARD SPECIFICATIONS PART 3 - CONSTRUCTION METHODS

The Leucadia Wastewater District adopts the "Greenbook", Standard Specification for Public Works Construction, latest edition plus latest Greenbook Supplement, as the specifications to be used to establish standards of work, material, and construction procedures for improvements to the sewerage system within its boundaries. If in conflict, the requirements of the "LWD Sewer Standards" take preference over the Greenbook. Specific exceptions, clarifications, highlighted requirements, and modifications to the Greenbook are discussed herein.

ADD THE FOLLOWING NEW SUBSECTION TO 301-1 SUBGRADE PREPARATION

301-7 UNDERGROUND CONCRETE GREASE INTERCEPTORS

The grease interceptor must be set on a properly prepared base to insure against movement of either the tank or the inlet and outlet lines. The excavation shall be the proper width and length to accept the interceptor model selected and shall have enough extra width and length to allow for safe installation and sealing of the system. The excavation shall be bedded with suitable granular material and shall be compacted to 90% maximum dry density, or to the requirements of the project geotechnical engineer. The bottom of the excavation shall be graded level.

A damp-proofing material shall be applied to the exterior portions of buried concrete grease interceptors as directed by the District Engineer or other local agency official when located at or below the water table or when moisture or seepage is indicated. The damp-proofing material shall consist of two coats of a single-component self-priming, heavy-duty cold-applied coal tar by Kop-Coat, Bitumastic Super Service Black, or approved equal.

ADD FOLLOWING AFTER FIRST PARAGRAPH OF 303-1.8.1 - Placing Concrete. General.

Concrete shall not be placed until reinforcing steel and forms have been inspected and approved.

ADD THE FOLLOWING NEW SECTIONS AFTER 303-1.12 PAYMENT

303-1.13 Water Testing Concrete Structures

All concrete structures shall be tested for water tightness by the Contractor. Units shall be filled to normal operating level, as shown on plans. Any noticeable leaks shall be repaired and, if necessary, the test shall be repeated until water tightness is insured. The cost of water testing shall be borne by the contractor. Vacuum test may be performed in lieu of hydraulic test; tests shall be in accordance with Section 306-1.4.7 of these specifications.

303-1.14 Pipelines Through Concrete Structures

Whenever a pipeline of any material terminates or extends at or through a structural wall or sump, the Contractor shall, where possible, install in advance of pouring the concrete, the pipe sleeve fitting or core drilled connection fitting, and special coatings as required for the particular installation.

Whenever any run of pipe is installed subsequent to placing of concrete, the Contractor shall accurately position the opening in the concrete for such pipelines. Openings shall be of sufficient size to permit a perfect final alignment of pipelines and fittings without deflection of any part and to allow adequate space for satisfactory packing where pipe passes through the wall to insure water tightness around openings so formed. Core drilled pipe penetrations shall be provided with Sika Elastomeric Sealant, or approved equal, to ensure tightness around openings so formed. Sleeves or cores shall be grouted at both ends with non-shrink cementitious grout, using Sika grout 212, or approved equal.

REPLACE THE SECOND PARAGRAPH OF 303-3.2 Concrete. WITH THE FOLLOWING

Precast concrete manhole rings, cones and sections required for pipeline structures shall be of the dimensions indicated on the drawings. They shall be made of 650-CW-4000 concrete with Type V cement as described in Division 2 Part 2 of these specifications.

REPLACE THE SECOND PARAGRAPH OF 303-3.7 Bonding and Grouting. WITH FOLLOWING

Use "Injection and Anchoring Resins-03930 Everset Type II", grout admixture manufactured by Sika Products, two component, epoxy adhesive and crack filler with Sika Grout 212, cementitious grout or equal.

Manholes to be repaired or lined with Table 500-2.1.1 Manhole and Rehabilitation Lining Systems shall only use grout that has been submitted for review and approved for use by the District in conjunction with the proposed manhole lining system. Unless otherwise approved by the District Engineer, all new manholes shall be lined with epoxy.

ADD THE FOLLOWING TO 306-1 – OPEN TRENCH CONDUIT CONSTRUCTION, GENERAL.

The subsections of Section 306 commonly used by LWD are listed in Table 306-1.1. Whether listed in Table 306-1.1, or not, the LWD Standard Spec requirements take precedence over the Greenbook for conflicting items added by the Standard Spec; otherwise the Greenbook governs.

Table 306-1.1, Sections Used Most Frequently

306-1	General
306-2	Delivery Storage, Handling, and Protection of Pipeline Materials, Fittings, Valves, and Appurtenances
306-3	Trench Excavation
306-4	Shoring and Bracing
306-5	Dewatering
306-6	Bedding
306-7	Prefabricated Gravity Pipe
306-7.1	General
306-7.4	Vitrified Clay Pipe
306-7.7	Plastic Sewer and Drainage Pipe
306-7.8	Gravity Pipeline Testing
306-8	Prefabricated Pressure Pipe
306-8.5	PVC Pressure Pipe
306-12	Backfill
306-13	Trench Resurfacing

ADD A NEW PARAGRAPH 306-2.1.1 Handling and Storing Pipe

During storage, handling, and transporting, every precaution shall be taken to prevent damage to pipe. Pipe shall be handled only by means of pipe manufacturer approved hooks on ends of sections, by means of dual fabric slings, or other methods approved by the LWD District Engineer for the pipe used. PVC pipe shall not be stored in direct sunlight. Store any rubber or neoprene materials in enclosures. Pipe shall be stored on shipping supports, or by other method approved by the pipe manufacturer or LWD District Engineer. Under no circumstances shall backfill be dropped onto any type of sewer or force main pipeline in a manner that is determined by the LWD District Engineer to be detrimental to the pipe.

ADD THE FOLLOWING TO 306-3 TRENCH EXCAVATION 306-3.1 General.

Excavated material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the excavated banks to avoid overloading and to prevent slides or cave-ins. Excavation surfaces shall be graded as necessary to prevent surface water from flowing into the trenches.

ADD THE FOLLOWING TO 306-3.2 Removal of Surface Improvements

Shrubbery, trees and sod, fences, property survey corners or markers, and other surfaces disturbed, shall be restored to a condition equal to that before the work began by the Contractor at his expense, furnishing all labor and materials incidental thereto.

ADD THE FOLLOWING TO PARAGRAPH OF 306-3.4 Minimum and Maximum Width of Trench:

For pipe installation, the minimum width of trench permitted shall be as indicated on *LWD Standard Drawing Nos. S-11 and S-12*. If any trench, through the neglect of the Contractor, is excavated below the bottom grade as required by the profiles, it shall be refilled to grade, at the Contractor's expense for all labor and materials, with pipe zone materials as required per *LWD Standard Drawing No. S-11*, well tamped into place.

The maximum width of trench shall be determined by the size of the sewer pipe being installed. For sewer pipe of diameter 8-inch through 24-inch the maximum width of trench shall be 24-inches greater than the outside diameter of the pipe. For sewer pipe of diameter 30-inch through 36-inch the maximum width of trench shall be 36-inches greater than the outside diameter of the pipe.

ADD THE FOLLOWING TO SUBSECTION 306-6.1.1 BEDDING, GENERAL

306.6.1.1. Pipe Zone Requirements. The Contractor shall excavate to four (4) inches below sub-grade and place four (4) inches of crushed rock bedding as specified and as shown on *Standard Drawing S-11*. Crushed rock shall be placed to insure a minimum cover of 1'-0" over top of pipe as specified and as shown on *LWD Standard Drawing No. S-11*.

ADD THE FOLLOWING SUBSECTION 306-6.1.2;

306-6.1.2 Firm Trench Bottom. When existing soil conditions are stable and have a standard penetration test blow count equal to or greater than 13 blows per foot or shear strength greater than 750 psf obtained from an unconfined compression test, PVC SDR 35 sewer pipe, 4" through 15" diameter may be installed with not less than 4 feet of cover, nor more than 15 feet of cover. For cover greater than 15 feet, AWWA C900 or C905 PVC Class 200 pressure pipe shall be used with calculations submitted for approval.

Provide a crushed rock bedding and pipe zone in accordance with Green Book Section 306-1.2.13 and per *LWD Standard Drawing No. S-11*, Type C. Maximum ½-inch gradation Greenbook Section 200-1.2 crushed rock shall be used in the bedding zone for pipe up to and including 16-inch diameter and ¾-inch rock shall be used for piping larger than 16-inch.

In the following listed conditions, stable subgrade shall be established with over excavation and backfill with ¾-inch crushed rock and the crushed rock bedding zone shall be encased in a geotextile fabric.

- a. When standard penetration blow count is less than 13 blows per foot: or
- b. When shear strength is less than 750 psf obtained from an unconfined compression test: or
- c. When wet uniform subgrade conditions exist in the judgment of the LWD Inspector, the LWD District Engineer, the Improvement plan engineer, or the Contractor.

The improvement plan engineer of record or project geotechnical engineer shall submit a recommended geotextile suitable for the in-situ soil conditions for approval by the LWD District Engineer.

For shallower or deeper conditions, or for anticipated or actual field conditions that differ from these assumptions, the designer shall submit sewer pipe strength calculations for review and approval by the LWD District Engineer.

SECTION 306-6.5, PARAGRAPH 306-6.5.1, ADD THE FOLLOWING:

No water jetting or water densification of pipe bedding or backfill shall be allowed.

ADD THE FOLLOWING NEW SECTION 306-7.1.1 LWD Pipeline Bedding –

Provide a crushed rock bedding and pipe zone in accordance with *LWD Standard Drawing No. S-11*, Type C for:

1. SDR 35 PVC sewer pipe in sand, gravel, or saturated topsoil from 4-feet to 15-feet deep;
2. AWWA C900/C905 PVC pressure pipe in sand, gravel, or saturated topsoil from 15 to 30 feet deep;
3. VCP in dry or wet clay soils from 4-feet to 13-feet depth; and
4. VCP in dry or wet clay soils between 13-feet and 30-feet of cover, utilize concrete encasement in the pipe zone per *LWD Standard Drawing No. S-16*.

½-inch gradation Greenbook Section 200-1.2 crushed rock shall be used in the bedding zone for pipe up to and including 16-inch diameter and ¾-inch rock shall be used for piping larger than 16-inch.

In areas of high ground water, or suspected high ground water, all crushed rock bedding shall be encased in an approved geotextile fabric. The improvement plan engineer of record or project geotechnical engineer shall submit a recommended geotextile suitable for the in-situ soil conditions for approval by the LWD District Engineer.

ADD THE FOLLOWING NEW SECTION 306-7.1.2 Reverse Slope and Ponding

Sewer pipe installation work shall be done in accordance with the following conditions:

1. Per *LWD Standard Drawing S-11 and S-12*;
2. Pipe shall be installed in a dry excavation;
3. Pipe shall be properly bedded at the required line and grade;

4. Care shall be taken in installing the pipe zone material with proper support of the pipe under the haunches and bells to avoid vertical or circumferential deflection of the pipe section;
5. Care shall be taken in moving the trench shield, if used, to avoid movement of the pipe; and
6. Care shall be taken in backfill of the pipe zone and trench to avoid moving the pipe, while also achieving required relative compaction.

For new sewers installed in relatively dry stable trenches and subgrade, as determined by the LWD District Engineer, there shall be no tolerance of reverse slope, as evidenced by ponding of flushing water in the pipeline during video inspection. Any such pipeline shall be removed upstream and downstream to the nearest sewer structure, unless otherwise approved by the LWD District Engineer, and shall be replaced at proper line and grade and retested. Point repairs of sags are not acceptable. The process of sag repair shall be repeated, if necessary, until no sags or ponding remain. The minimum waiting period before deflection and air pressure testing is allowed shall be 30 days.

For new sewers installed in saturated wet unstable soils, over-excavation and installation of crushed rock and geotextile shall be completed per *LWD Standard Drawing No. S-II*. Only as pre-approved by the LWD District Engineer based on this described geotechnical condition, the following sag or ponding allowances shall be tolerated by LWD based on the size of the sewer pipe:

Pipe Diameter, Inches	Flow Depth Criteria	Allowable Sag Only When Pre-Approved, Inches
8	½-full	0.50
10	½-full	0.50
12	½-full	0.75
15	¾-full	0.75
16	¾-full	1.00
18	¾-full	1.00
21	¾-full	1.25
24	¾-full	1.25
27	¾-full	1.50

ADD THE FOLLOWING NEW SECTION 306-7.1.3 Connection Prior To Acceptance

No new upstream sewer in construction shall be connected to the LWD wastewater collection system, except in the presence of the LWD Inspector. If such a connection will exist during the construction of the upstream Owner constructed sewer, then the connection shall be provided with a temporary sewer plug. A Temporary Sewer Plug Plan shall be in accordance with the LWD approved plans. In the event that the Improvement Plans do not have a Temporary Sewer Plug Plan, then the Contractor shall prepare a Temporary Sewer Plug Plan in accordance with the

requirements of **PROTOCOL FOR PLUGGING OR UNPLUGGING SEWERS, APPENDIX U** of the LWD Standard Specs for submittal, review, and approval by the LWD District Engineer.

Subject to LWD approval, the Owner may purchase and obtain sewer services for occupancy prior to final acceptance of the project by LWD under the conditions stated below. LWD retains discretion to deny requests for use of utilities prior to acceptance if LWD, in its sole and absolute discretion, determines that such use is not in the best interest of LWD or the public. When allowed and prior to the purchase of sewer capacity for each connection, the Owner shall meet the conditions providing for this allowance in Part 1, Division 1 of these LWD Standard Specs including execution of a **TEMPORARY SERVICE AGREEMENT, APPENDIX O** with terms and conditions approved by LWD.

ADD THE FOLLOWING NEW SECTION: Section 306-7.1.4 Sewer Laterals

Sewer laterals shall be maintained by the property owner from the property owner plumbing to the public sewer collection line. Damage caused to the sewer collection line by lateral wyes or saddles shall be repaired by the property owner. LWD will maintain the sewer collection line and downstream facilities.

Sewer laterals shall be constructed on an unyielding foundation, with joints closely and accurately fitted, true to line, and on a straight grade from the bend joining the main sewer to their upper ends, unless otherwise indicated on the plans. Sewer laterals shall not be laid on a slope greater than 45 degrees from a horizontal line unless required or approved by the LWD District Engineer. Wyes for sewer laterals shall be plastic PVC pipe fittings matching the sewer material. Acceptable wyes shall be made of either SDR 35 or C900; rubber wyes are not acceptable. The sewer lateral lines shall be jointed to wyes by commercially manufactured bends. Bends are a part of the sewer lateral. Sewer laterals shall be installed on a uniform grade of not less than 1/4" per lineal foot as shown on the *LWD Standard Drawing No. S-25* and as follows:

- A. Where depth of main line sewer and sewer lateral slope of 1/4" per lineal foot will result in a sewer depth at the termination of the lateral of 5-1/2 feet or less, then 1/4" per lineal foot slope shall govern.
- B. Where depth of main line sewer and sewer lateral slope of 1/4" per lineal foot will result in a sewer depth at the termination of the lateral of over 5-1/2 feet, the Contractor shall establish the slope of the lateral as follows:
 1. Where properties can be properly serviced by a sewer depth at the termination of the lateral of 5-1/2 feet, the slope shall be increased to result in the 5-1/2 foot depth, or a deep cut sewer lateral or riser may be used.
 2. Where properties slope away from the main line sewer such that a depth at the termination of the lateral of greater than 5-1/2 feet is required for proper service, the slope shall be laid to 1/4" per lineal foot or increased as required to service the property.
 3. In all cases, the Contractor shall establish the required elevations at the termination of the sewer lateral. Where a deep cut sewer lateral line is to be connected to a

sewer main, all bends leading away from the sewer main wye branch are a part of said deep cut sewer lateral. All sewer laterals shall be installed with a suitable stopper of the size of the lateral.

4. Sewer laterals shall not be connected directly to a manhole. They shall be connected to upstream or downstream sewer mains, but not within 5 feet of one another. The exception of this statement is only at cul-de-sac and street knuckles. Manhole flow lines must be channeled for each sewer lateral. Manhole size shall be 5 feet in diameter where three or more collection sewers connect to a manhole.

Commercially manufactured wyes shall be installed where indicated on the plans or at such locations required by the LWD District Engineer. All wye branches not to be joined to sewer laterals shall be installed with a pipe spool the size of the wye branch and a gasketed cap of appropriate size to seal the end of the pipe. The wye branches, unless otherwise specified, will be inclined upward at an angle not greater than 45 degrees from a horizontal line. The use of double wyes will not be permitted.

When it becomes necessary to connect a sewer lateral to a main line sewer at a point where no wye branch has been installed in the main line sewer, a Type I or Type II connection shall be made per the LWD Standard Spec Division 1 Part 3 as well as *LWD Standard Drawing No. S-32*.

Contractor shall request LWD Inspection a minimum of two (2) working days to arrange for acceptable inspection time for all lateral connection excavations. Request of inspection shall be verified verbally, messages or written requests are not acceptable without verbal confirmation. Damage to sewer laterals during excavation for connection to building plumbing requires: notification to the LWD Inspector; repair; TV Inspection; and successful air pressure test of line segment to which it is connected.

A standard cleanout per *LWD Standard Drawing No. S-25* shall be provided on each lateral at the property line to allow closed circuit television inspection of the lateral.

ADD THE FOLLOWING SECTION 306-7.7.2.4 Installation of Plastic Pipe and Fittings.

Wrinkles, blistering, or any interior or exterior imperfections of PVC pipe evident in the CCTV review for acceptance shall be subject to rejection at the discretion of the LWD Inspector.

Vibration, tamping, or re-compaction of pipe zone material to re-shape an out of tolerance deflected PVC pipe shall not be allowed. Any PVC pipe previously installed that is excavated for repair due to incorrect grade or for exceeding allowable deflection tolerances shall be removed from the jobsite and shall not be used for any LWD facility.

ADD A NEW PARAGRAPH 306-7.8.1.1 Gravity Pipe Testing.

Pipeline testing for sewers within the Leucadia Wastewater District shall consist of the following tests, which are described, in detail below:

Video Inspection Test (mandatory)

Air Pressure Test (mandatory)
Deflection Test (PVC Pipe only) (mandatory)
Manhole Negative Air Pressure Test after Backfill (Vacuum Test) (mandatory)
Water Infiltration Test (discretionary)

The Contractor at the Contractor's expense, including all materials, equipment and labor, shall perform these tests. The tests shall be performed in the presence of the LWD Inspector or LWD District Engineer. All sewer pipes and force mains shall be cleaned prior to testing by use of a high-pressure cleaning truck/vactor or Wayne Ball.

Testing shall proceed after compaction is complete and dry utilities are in-place, but prior to placing of permanent resurfacing. The tests shall include the main and laterals as a unit. All pipes are to be cleaned and empty at the time of testing.

When the facilities installed exceed the limits allowed by each test, the Contractor shall, at the Contractor's expense including materials, equipment, and labor, locate the defects and make the necessary repairs or replacements in accordance with the Specifications to reduce the leakage or infiltration to within the specified limits. Any individually detectable leaks shall be repaired, regardless of the results of the tests.

ADD THE FOLLOWING NEW SUBSECTION: 306-7.8.2.6 Manhole and Grease Interceptor Negative Air Pressure Test (Vacuum Test)

Manhole Negative Air Pressure Test (Vacuum Test). Vacuum testing shall be done in accordance with ASTM C 1244, latest edition. Each manhole and grease interceptor shall be tested immediately after assembly and prior to backfilling to pull all precast concrete segments together and to repair all vacuum leaks. Each manhole and grease interceptor shall be tested a second time for final acceptance after backfill in order to assure that the backfill operation did not damage the integrity of the vacuum seal. Any manholes or grease interceptors damaged or moved during final grading or paving shall be replaced, retested, excavated if failed, repaired if necessary, and retested until passing.

All lift holes shall be plugged with an approved non-shrink grout. No grout will be placed in the horizontal joints before testing. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole or grease interceptor.

For manholes, the test head shall be placed at the inside of the top of the cone section and the sealed manhole shall be evacuated in accordance with the manufacturer's recommendations. A vacuum of ten inches (10") of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to nine inches (9"). The manhole shall pass if the time is greater than 60 seconds for a 48" diameter manhole, and 75 seconds for a 60" manhole.

For grease interceptors, the test head shall be placed at the top of the cone section and the sealed manhole covers shall be evacuated in accordance with the manufacturer's recommendations. A vacuum of four inches (4") of mercury shall be drawn and the vacuum pump shut off. With the

valves closed, the time shall be measured for the vacuum to drop to three inches (3"). The manhole shall pass if the time is greater than 75 seconds for a 60" manhole.

If the manhole or grease interceptor fails the initial test, necessary repairs shall be made with a non-shrink grout while the vacuum is still being drawn. Cracks longer than two-inches shall be cause for rejection of the casting and no patching shall be allowed. Retesting shall proceed until a satisfactory test is obtained.

ADD A NEW SECTION 306-7.9 Construction of Sewer Manholes

Manholes shall be constructed in accordance with *LWD Standard Drawings*. In addition, the following miscellaneous requirements apply:

1. Existing polyurethane, epoxy or PVC manhole lining damaged during construction shall be repaired or replaced by the Contractor.
2. All new manholes shall be lined in accordance with Division 1 Part 3 Section 3.04(H), Division 2 Part 5 Section 502-1.1 and/or *LWD Standard Drawing No. S-33*.
3. Watertight manhole frame and cover shall be provided in areas where ponding around the manhole may be possible per *LWD Standard Drawing No. S-28*.
4. A minimum of 48 hours of curing time is required for all manhole bases prior to stacking manhole rings. No admixtures or accelerators shall be utilized without specific written permission from the LWD District Engineer and in no case shall such additives be allowed in lieu of 48 hours cure time.
5. A "GPK" manhole connection ("Sand Collar") fitting shall be cast into the base of manholes for all connections. The connection shall be watertight and shall provide a flexible joint at the connection to the GPK fitting. The nearest pipe joint shall be at the end of the standard GPK fitting and not more than 2-feet outside of the manhole base, in any case. The invert channel in the manhole base shall be formed at the time the manhole base is constructed. No mortar will be allowed.
6. At the locations, as shown on the Drawings, the Contractor shall connect to existing manhole structures and construct the new flow-through channels in each manhole base to accommodate the new sewer lines as required. Smooth transitions shall be installed from the inverts of the newly installed pipes to the existing manhole structures. Manholes shall be core drilled and manhole connection fittings shall be connected to the core drilled hole by Link-Seal, or approved equal, and concrete encased. The first flexible joint shall be located within one-foot of manhole base. Jack hammering shall not be allowed.
7. Drop manhole tees, concrete encased drop pipes, and drop manhole one-fourth bends for all drop manholes as shown on the plans, shall be constructed as a part of the sewer structures required by the Contractor. The location, sizes, and elevations of these items shall be as shown on the details and plans.

ADD THE FOLLOWING TO SECTION 306-12.4, PARAGRAPH 306-12.4.1:

No water jetting or water densification of pipe bedding or backfill shall be allowed.

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**DIVISION 2 SEWER SYSTEM STANDARD SPECIFICATIONS
PART 4 – EXISTING IMPROVEMENTS
SECTION 402 – UTILITIES**

LWD has adopted the (Greenbook) "Standard Specification for Public Works Construction," 2021 edition plus latest Supplement, as the specifications to be used to establish standards of work, material, and construction procedures for improvements to the sewerage system within its boundaries. If in conflict, the requirements of the "LWD Sewer Standards" takes precedence over the Greenbook. Specific exceptions, clarifications, and modifications to the Greenbook are discussed herein.

ADD THE FOLLOWING PARAGRAPH TO 402-3 REMOVAL:

Removal of existing LWD gravity sewer or force main that has been abandoned and drained shall be accomplished by completing the following steps unless otherwise specified on the Plans:

1. Legally remove and dispose of sewer pipe. Contractor shall be responsible for dewatering and proper removal of effluent that may be found remaining in the sewer pipe.
2. Install a 2-foot concrete plug at the ends of the sewer pipe that is to remain abandoned in place. Suitable material shall be placed upstream of the plug to hold the 2-foot concrete plug in place. Notification to shall be provided to LWD at least 48 hours in advance to allow LWD to inspect each pipe abandonment location.
3. The Contractor shall identify on as-built redlines the extent of the sewer pipe that was removed the location of the concrete plugs that were installed on the pipe to remain abandoned in place. Record drawings will be provided to LWD with this information.
4. LWD will be released from any liability or responsibility for the condition of the sewer pipe, the soil condition surrounding the sewer pipe, discharges of effluent from the sewer pipe, and any and all injuries or damages resulting from the destruction, removal, and plugging of the sewer pipe.

REPLACE PARAGRAPH 402-4 RELOCATION. WITH THE FOLLOWING

Contractor shall be responsible for utility relocation or as otherwise indicated on the plans.

ADD THE FOLLOWING PARAGRAPHS TO SECTION 403-1 MANHOLE ADJUSTMENT AND RECONSTRUCTION, General

All manhole adjustments shall be per Division 1 Part 3 Section 3.04 of the LWD Standard Specifications as well as *LWD Standard Drawing No. S-29*. Adjustment of manhole frame and cover will be inspected for good workmanship, soundness, and water tightness by LWD Inspector. Repair any items required for re-inspection.

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**DIVISION 2 SEWER SYSTEM STANDARD SPECIFICATIONS
PART 5 – PIPELINE SYSTEM REHABILITATION
SECTION 500 – PIPELINE REHABILITATION**

LWD has adopted the (Greenbook) "Standard Specification for Public Works Construction," 2021 edition plus latest Supplement, as the specifications to be used to establish standards of work, material and construction procedures for improvements to the sewerage system within its boundaries. If in conflict, the requirements of the "LWD Sewer Standards" takes precedence over the Greenbook. Specific exceptions, clarifications, and modifications to the Greenbook are discussed herein.

ADD THE FOLLOWING PARAGRAPHS TO 500-5.1 General:

500-5.1.1 Pipe Lining Methods. LWD allows, or does not allow, the various methods listed and as-noted in the following Table 500-5.1.1 Pipe Lining Methods.

Table 500-5.1.1 Pipe Lining Methods

Section	Title	Method - Common Name	Manufacturer	LWD Allowable
500-5.4	HDPE Solid-Wall Pipe Liner	Slip Lining	Plexco, or equal	No
500-5.5	Cured In Place Liner (CIPP)	CIPP	Sancon, Insituform, or equal	Yes
500-5.6	PVC Pipe Lining System - Grouted-In-Place	Spiral Slip Lining	Danby	Case by Case Basis
500-5.7	Deformed / Reformed HDPE Pipe Liner	Fold & Form	U-Liner	No
500-5.8	FRPM Liner Pipe	Slip Lining	Hobas or equal	No
500-5.9	External In-Place Wrap	Same	Generic Plastic Liner & Reinforced Concrete	No
500-5.10.2	Folded & Reformed PVC Pipe - Type A	Fold & Form	NuPipe & Miller EX	No
500-5.10.3	Folded & Reformed PVC Pipe - Type B	Fold & Form	Am-Liner	Yes
500-5.11	HDPE Spirally Wound Profile Wall Liner	Spiral Slip Lining	Weholite	Case by Case Basis
500-5.12	PVC Closed Profile Liner Pipe	Slip Lining	Lampson Vylon	No
500-5.13	Machine Spiral Wound PVC Pipe Liner - Not Grouted In-Place	Spiral Slip Lining	Ribloc	Case by Case Basis

500-5.1.2 Structural Pipe Lining Requirements. The Engineer shall submit structural calculations in accordance with industry standards for the given material and method for review and approval by the LWD District Engineer. Pipe loading shall include: soil, H-20 traffic impact, saturated groundwater to ground surface, and other anticipated loads. Structural calculations shall be based on structural replacement of the pipe assuming that the existing pipeline is fully deteriorated. Installed pipe materials shall have a demonstrated minimum 50-year life cycle.

500-5.1.3 Encroachment Permit Requirements. The Contractor shall obtain all environmental, coastal, encroachment, and other permits required by the jurisdictional city and all other agencies having jurisdiction over the work. The Contractor shall comply with all of the requirements of

such permits including requirements for: allowed work hours; traffic control; compliance with noise limitation; odor control; public outreach; and any other requirements of the jurisdictional agencies.

500-5.1.5 Testing. The Contractor shall retain a third-party testing laboratory to verify source and specification of materials and that such materials meet all other requirements of the Greenbook. The approved third-party testing laboratory shall also direct the fabrication, sampling, and testing of materials installed as part of the work.

ADD THE FOLLOWING PARAGRAPHS TO 502-1 MANHOLE AND STRUCTURE REHABILITATION:

502-1.1 Manhole and Structural Rehabilitation Methods. LWD allows, or does not allow, the various manhole rehabilitation lining systems, as noted in the following Table 502-1.1.

Table 502-1.1 Manhole & Rehabilitation Lining Systems				
Section	Title	Method - Common Name	Manufacturer	LWD Allowable
502-5.1	Integral Locking PVC Lining with Portland Cement Concrete	T-Lock	Ameron, ArmorLok	Yes. Not required unless requested by LWD.
502-5.2	Segmented PVC Lining with Cementitious Interstitial Grout	Segmented PVC	Danby, Permaform	Case by Case Basis
502-5.3	Polyurethane and Epoxy Protective Lining	Polyurethane or Sancon 100	Sancon, Zebron, Utilithane, or Carboline Reactamine 760HB	No
502-5.4	Epoxy Lining	Epoxy	Raven, Saurereisen, or Warren Environmental	Required for new manholes or repair of existing MH
502-5.5	Epoxy Mastic and Flexible PVC Liner	Arrow Lock	Ameron, ShieldLok	Case by Case Basis
NA	Not yet in Greenbook	CIP Epoxy FG Composite	PolyTriplex	Case by Case Basis
NA	Not yet in Greenbook	Polymer Concrete	Geneva Armorock	Yes
NA	Not yet in Greenbook	Thermoplastic Liners & Bases	Predl Systems	Yes

502-1.2 Other General Requirements. The general requirements of 500-5.1 General described for pipeline rehabilitation including structural calculations, wastewater bypass, encroachment permit requirements, and testing shall also be met for all manhole rehabilitation work. In addition, the Contractor shall retain an independent third-party inspector for inspection of the prepared manhole prior to application of rehabilitation, inspection of application of the rehabilitation method, and post installation spark and adhesion testing.

**DIVISION 2 SEWER SYSTEM STANDARD SPECIFICATIONS
PART 8 – LANDSCAPING AND IRRIGATION**

LWD has adopted the (Greenbook) "Standard Specification for Public Works Construction," 2021 edition plus latest Supplement, as the specifications to be used to establish standards of work, material and construction procedures for improvements to the sewerage system within its boundaries. If in conflict, the requirements of the "LWD Sewer Standards" take precedence over the Greenbook. Specific exceptions, clarifications, and modifications to the Greenbook are discussed herein.

ADD THE FOLLOWING TO SECTION 801-1 GENERAL

No new trees shall be planted within 5 feet of LWD sewer facilities. All LWD sewer mains within 10 feet of proposed trees shall be lined per Division 2 Part 5 Section 500.

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**DIVISION 3
STANDARD NOTES AND DRAWINGS**

Dwg #	Title
GN-1	Standard Sewer Notes for Private Improvement Plans - 1
GN-2	Standard Sewer Notes for Private Improvement Plans - 2
GN-3	Standard Sewer Notes for Private Improvement Plans - 3
GN-4	Standard Sewer Notes for Private Improvement Plans - 4
GN-5	Standard Sewer Notes for Private Improvement Plans - 5
GN-6	Standard Sewer Notes for Private Improvement Plans - 6
GN-7	Standard Sewer Notes for Private Improvement Plans - 7
LN-1	Standard Sewer Lateral Notes for Minor Grading Plans
LN-2	Standard Sewer Lateral Notes for Minor Grading Plans
LN-3	Standard Sewer Lateral Notes for Minor Grading Plans
LN-4	Standard Sewer Lateral Notes for Minor Grading Plans
PN-1	Protection Notes for Miscellaneous Plans
PN-2	Protection Notes for Miscellaneous Plans
S-1	Standard Symbols and Legend
S-2	Pipeline Separation Requirements
S-3	Standard Precast Concrete Manhole (4' Dia. For Up to 15-inch Pipe and Up to 12-foot Depth)
S-4	Standard Precast Concrete Manhole (5' Dia. For 18-in. to 30-in. Pipe or Greater Than 12-foot Depth)
S-5	Standard Precast Concrete Drop Manhole
S-6	Standard Manhole Frame and Cover (24" Dia.)
S-7	36-inch Manhole Frame and Two Concentric Covers (Heavy Duty)
S-8	Not Used
S-9	Not Used
S-10	Cleanout – Sewer Force Main
S-11	Standard Pipe Zone and Trench Backfill
S-12	Standard Pipe Trench Detail in Existing Streets
S-13	Concrete Crown Protection for Existing Sewer Pipe
S-14	Concrete Support for Undercut Sewer Pipe
S-15	Concrete Encasement & CLSM Encasement
S-16	Standard Cut-off Wall
S-17	House Connection (Sewer Lateral)
S-18	Deep Cut House Connection (Sewer Lateral)
S-19	Undercut Sewer Repair
S-20	Sample Sheet for Developer Improvements
S-21	Sample Sheet for District CIP Improvements
S-22	GIS Table
S-23	Pipe Detail at Wall Footing
S-24	Sewer Lateral Table
S-25	Typical Sewer Lateral
S-26	Typical Grease Interceptor for 1,500 Gallon and Larger
S-27	Shallow Sewer Manhole
S-28	Manhole Frame and Cover – Locking Type

DIVISION 3
STANDARD NOTES AND DRAWINGS
(Continued)

S-29	Raising Manholes to Grade
S-30	Concrete Manhole Collar
S-31	Standard Terminal Manhole
S-32	Sewer Cut-In Wye Connections and Sewer Repair Detail
S-33-1 and -2	Interlocked PVC Manhole Lining
S-34	Private Pump Station Force Main Connection

GENERAL NOTES

1. LWD APPROVAL OF THESE PLANS DOES NOT RELIEVE THE APPLICANT, PRIVATE ENGINEER OF WORK, OR CONTRACTOR FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING OR AFTER CONSTRUCTION.
2. ALL DESIGN, MATERIALS, AND CONSTRUCTION WORK SHALL CONFORM TO THE LEUCADIA WASTEWATER DISTRICT LWD SEWER STANDARD SPECIFICATIONS AND TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK) AND THE REGIONAL STANDARD DRAWINGS, MOST CURRENT EDITIONS. IN THE EVENT OF CONFLICT THE LWD SEWER STANDARD SPECIFICATIONS GOVERN.
3. OSHA SAFETY ORDERS AND OSHA CONFINED SPACE ENTRY REQUIREMENTS SHALL BE FOLLOWED AT ALL TIMES WITHOUT EXCEPTION.
4. THE CONTRACTOR SHALL HAVE A COPY OF THE DOCUMENTS LISTED IN SEWER NOTES 2 & 3 ON THE JOB SITE AT ALL TIMES.
5. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY LWD AND SHALL REPAIR OR REPLACE ANY WORK THAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIALS WITHIN THE ONE YEAR PERIOD WITHOUT EXPENSE WHATSOEVER TO LWD.
6. QUANTITIES SHOWN HEREON ARE FOR BOND ESTIMATE PURPOSES ONLY. NEITHER THE PRIVATE ENGINEER NOR LWD GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SEWER QUANTITIES.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS REPRESENTING ALL MATERIALS AND SUPPLIES SATISFACTORY TO LWD. WORK SHALL NOT COMMENCE UNTIL SUCH MATERIALS ARE APPROVED BY LWD.
8. PRIOR TO BEGINNING SEWER WORK, THE LWD INSPECTOR SHALL BE FURNISHED A SET OF CUT SHEETS AND THE CONTRACTOR SHALL COMPLY WITH LWD STANDARD SPEC SURVEY REQUIREMENTS.
9. PRIOR TO START OF WORK, CONTRACTOR SHALL SECURE A LWD PERMIT FOR CONSTRUCTION, SUBMIT SHOP DRAWINGS FOR ALL MATERIALS FOR REVIEW & APPROVAL, SCHEDULE AND ATTEND A PRECONSTRUCTION MEETING PER APPENDIX V OF STD SPEC, AND PROVIDE 3-WEEK LOOK AHEAD SCHEDULE(S) FOR ALL SEWER WORK THROUGHOUT PROJECT IN ADDITION TO 72 HOURS NOTICE OF NEED FOR EACH INSPECTION.
10. NO WORK SHALL BE COMMENCED UNTIL ALL RIGHT-OF-WAY AND OTHER REQUIRED PERMITS HAVE BEEN OBTAINED FROM THE JURISDICTIONAL CITY, COUNTY, AND/OR OTHER APPROPRIATE AGENCIES.

LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022


RCE C33692 EXP 6/30/2022

DRAWN	CHKD.	REV.
MMS	KLH	DSW

GENERAL NOTES - 1

STD. DWG. NO.

GN-1

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GENERAL NOTES

11. THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE DISTRICT INSPECTOR SHOWING THE DESIGN OF SHORING, BRACING, SLOPING, OR OTHER PROVISIONS TO BE MADE FOR PROTECTION OF WORKERS FROM THE HAZARD OF CAVING GROUND DURING TRENCH EXCAVATION AND PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET OR MORE IN DEPTH. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8, CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE LWD INSPECTOR PRIOR TO EXCAVATION.

12. ALL SEWER FACILITIES SHALL BE INSTALLED IN DRY EXCAVATIONS AND TRENCHES. CONTRACTOR SHALL DEWATER AND MAINTAIN DEWATERING CONTINUOUSLY UNTIL THE WORK IS COMPLETED INCLUDING PLACEMENT AND COMPACTION OF BACKFILL MATERIALS IN A DRY STATE. ALL PIPE ZONE MATERIAL LOCATED IN WET OR AREAS SUSPECTED TO BE WET IN THE FUTURE SHALL BE ENCASED IN GEOTEXTILE MATERIAL. SUITABLE GEOTEXTILE MATERIAL SHALL BE SUBMITTED TO THE DISTRICT ENGINEER FOR REVIEW AND APPROVAL. CONTRACTOR SHALL OBTAIN DEWATERING PERMITS AS NECESSARY AND RETURN OF GROUNDWATER TO THE SEWER SHALL NOT BE ALLOWED.


13. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS WAS OBTAINED BY AN AVAILABLE RECORDS SEARCH BY THE PRIVATE ENGINEER. TO THE BEST OF THE PRIVATE ENGINEER'S KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITIES OR STRUCTURES NOT SHOWN, OR IN A DIFFERENT LOCATION FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.

14. APPROVAL OF THIS PLAN BY LWD DOES NOT CONSTITUTE A REPRESENTATION OF THE ACCURACY OF THE LOCATION OF, OR THE EXISTENCE OR NONEXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT.

15. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (800) 422-4133, TWO BUSINESS DAYS PRIOR TO ANY EXCAVATION, AS REQUIRED BY STATE LAW. ALL UTILITY CROSSINGS SHALL BE POT HOLED PRIOR TO TRENCHING.

16. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS INCLUDING, BUT NOT LIMITED TO, TRENCH SAFETY AND CONFINED SPACE ENTRY.

LEUCADIA WASTEWATER DISTRICT

APPROVED <u>2/25/2022</u> 		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

GENERAL NOTES - 2

STD. DWG. NO.

GN-2

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GENERAL NOTES

17. SOILS REPORTS SHALL BE SUBMITTED TO LWD BY A QUALIFIED SOILS ENGINEER WHICH CERTIFIES THAT TRENCH BACKFILL WAS COMPACTED AS DIRECTED BY THE SOILS ENGINEER IN ACCORDANCE WITH ON SITE EARTHWORK SPECIFICATIONS AND THE LWD STANDARD SPEC.
18. SEWER ELEVATIONS SHOWN ARE INVERT ELEVATION (I.E.), INSIDE BOTTOM OF PIPE UNLESS OTHERWISE NOTED. SEWER LENGTHS SHOWN ARE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
19. ALL REVISIONS TO DRAWINGS SHALL BE APPROVED BY THE LWD DISTRICT ENGINEER AS CONSTRUCTION CHANGES TO THE ORIGINAL MYLAR DWGS WITH INITIALED APPROVAL ON THE MYLARS.
20. CONTRACTOR IS RESPONSIBLE FOR KEEPING COMPLETE RECORD OF CHANGES AND SHALL MAKE SUCH RECORD AVAILABLE TO THE PRIVATE ENGINEER. THE PRIVATE ENGINEER SHALL PROVIDE AS-BUILT DRAWINGS TO LWD FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
21. LENGTH OF OPEN TRENCH SHALL BE LIMITED TO 350 FEET, INCLUDING COLLECTORS AND LATERALS, UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT. TRENCH SHALL BE BACKFILLED OR PLATED AT THE CONCLUSION OF EACH DAY OF WORK.
22. THE CONTRACTOR SHALL PROTECT ALL SURVEY MONUMENTATION. IF ANY SURVEY MONUMENTS ARE DISTURBED OR DESTROYED, THE CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR TO REESTABLISH AND RECORD THE MONUMENT CHANGE PER STATE LAW.
23. A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN THE SEWER PIPE AND ANY OTHER UTILITIES. EXISTING SEWER CROSSED WITHIN 3-FT VERTICAL ABOVE OR BELOW SHALL BE CCTV INSPECTED BOTH BEFORE AND AFTER THE CROSSING WORK IS COMPLETED FOR LWD REVIEW, APPROVAL, & RETENTION OF DIGITAL VIDEO FILES. ANY DAMAGED LWD FACILITIES SHALL BE REPAIRED TO LWD SATISFACTION AT NO COST TO LWD INCLUDING ADDITIONAL CCTV INSPECTION.
24. SEPARATION OF SEWER / WATER AND SEWER / RECLAIMED WATER SHALL COMPLY WITH LWD STD DWG S-2 AND WITH ALL COUNTY AND STATE HEALTH DEPT REGULATIONS.
25. CONNECTIONS TO EXISTING SEWER PIPE OR MANHOLES SHALL ONLY BE DONE IN THE DIRECT PRESENCE OF THE LWD INSPECTOR. NEW SEWER SHALL NOT BE CONNECTED OR ALLOWED TO FLOW TO EXISTING SEWER UNTIL AFTER FINAL ACCEPTANCE OF ALL UPSTREAM WORK BY THE LWD INSPECTOR, OR AS APPROVED BY DISTRICT ENGINEER.
26. ALL SERVICE LATERALS SHALL BE LOCATED AT RIGHT ANGLES TO THE SEWER MAIN UNLESS OTHERWISE SHOWN AS APPROVED BY LWD ON THE PLANS.

LEUCADIA WASTEWATER DISTRICT

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MMS	KLH	DSW

GENERAL NOTES - 3

STD. DWG. NO.

GN-3

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GENERAL NOTES

27. A 2-INCH HIGH "S" SHALL BE INSCRIBED ON THE CURB FACE AT EACH LATERAL LOCATION BY THE CONTRACTOR.
28. ALL PIPE SHALL BE HANDLED AND INSTALLED SO AS TO PROTECT PIPE, JOINTS, LINING, AND COATING. THE PIPE SHALL BE CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT UNEVEN SETTLEMENT. PIPE SHALL BE PROTECTED AGAINST FLOTATION AT ALL TIMES. OPEN ENDS OF PIPE SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
29. PIPE JOINTS SHALL NOT BE DEFLECTED UNLESS SO DESIGNED AND SHALL THEN BE LIMITED TO LESS THAN ONE-HALF OF THE ANGLE RECOMMENDED BY THE PIPE MANUFACTURER.
30. SEWER PIPE ZONE AND TRENCH BACKFILL SHALL BE PER THE LWD SEWER STANDARD SPECIFICATIONS. WATER JETTING SHALL NOT BE ALLOWED.
31. ALL LATERALS SHALL BE CONSTRUCTED CLEAR OF DRIVEWAYS.
32. JOB MIXING OF CONCRETE IS NOT ALLOWED WITHOUT EXCEPTION. CONCRETE TESTING BY LWD WILL BE AT CONTRACTOR EXPENSE.
33. MANHOLE BASES SHALL BE MONOLITHICALLY PLACED, FINISHED, AND COMPLETED AT TIME OF PLACEMENT. GPK PRODUCTS, INC., OR APPROVED EQUAL, MANHOLE ADAPTERS SHALL BE SET IN THE BASE FOR EACH PIPE CONNECTION. SETTING OF MH RINGS SHALL NOT BE ALLOWED FOR 48 HOURS AFTER CONCRETE PLACEMENT. PRECAST MANHOLE BASES ARE ACCEPTABLE FOR USE WITH DISTRICT APPROVAL.
34. JOINTS BETWEEN MH BASE, SHAFTING, CONE SECTIONS, AND RING SHALL HAVE A 2" BY 2" BUTYL RUBBER GASKET PLACED WITHIN THE FULL CIRCUMFERENCE. GASKET SHALL BE CPS-210 BY PRESS-SEAL GASKET CORP., OR APPROVED EQUAL.
35. ALL MANHOLES SHALL BE VACUUM TESTED 1) BEFORE BACKFILL, 2) AFTER BACKFILL, AND 3) SUBSEQUENT TO ANY SUSPECTED MOVEMENT OR DAMAGE AFTER BACKFILL.
36. ALL SEWERS AND LATERALS SHALL BE WAYNE BALLED OR JETTED, LOW PRESSURE AIR TESTED, AND TELEVISED AT THE APPLICANT /CONTRACTORS EXPENSE PRIOR TO CONSIDERATION FOR FINAL ACCEPTANCE BY LWD. AIR TEST SHALL BE DONE AFTER CONSTRUCTION OF ALL OTHER UTILITIES AND UTILITY LATERALS.
37. ALL SEWERS AND LATERALS SHALL BE IN PLACE AND SHALL HAVE FINAL APPROVAL BY THE LWD INSPECTOR PRIOR TO BACKFILL.
38. MANHOLES SHALL BE 4- FEET DIAMETER FOR PIPE UP TO 15-INCH DIAMETER PER LWD STD DWG S-3. MANHOLES SHALL BE 5- FEET DIAMETER FOR PIPE 18-INCHES AND LARGER OR 12- FEET OR GREATER DEPTH PER LWD STD DWG S-4.

LEUCADIA WASTEWATER DISTRICT

APPROVED <u>2/25/2022</u> 	GENERAL NOTES - 4	STD. DWG. NO. GN-4						
RCE C33692 EXP 6/30/2022								
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DRAWN	CHKD.	REV.						
MMS	KLH	DSW						

GENERAL NOTES

39. ALL NEW MH SHAFTS AND PRECAST MH BASES SHALL BE LINED WITH APPROVED LININGS SPECIFIED IN DIVISION 2 PART 5 TABLE 502-1.1 OF THE LWD SEWER SPECS. EPOXY OR PVC LINING SYSTEMS SHALL BE PER SECT 500-2 OF THE GREENBOOK. A MINIMUM OF FIFTEEN PERCENT (15%) OF MANHOLES AND NOT LESS THAN ONE PERCENT (1%) WITH EPOXY LINERS SHALL SUCCESSFULLY PASS PULL-TEST AND BE REPAIRED UNTIL PASSING.
40. MAXIMUM DEPTH OF SEWER FOR SDR 35 PVC PIPE IS 15'. C900 PIPE IS REQUIRED FOR DEPTH OF COVER OVER 15'.
41. FINAL APPROVAL OF PLANS BY DISTRICT ENGINEER IS VALID FOR A PERIOD OF TIME NOT TO EXCEED ONE YEAR FROM APPROVAL DATE TO START OF CONSTRUCTION. IF THE ONE YEAR TIME LIMIT IS EXPIRED PRIOR TO START OF CONSTRUCTION THE DEVELOPER SHALL RESUBMIT THE PLAN CHECK TO THE DISTRICT ENGINEER FOR AN UPDATED REVIEW AND APPROVAL. ANY CHANGES REQUIRED TO THE PLANS SHALL BE MADE AT THE DEVELOPERS EXPENSE AND APPROVED BY THE LWD DISTRICT ENGINEER PRIOR TO THE START OF CONSTRUCTION.
42. WHEN CONNECTION TO AN EXISTING MANHOLE IS NECESSARY AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL CONNECT TO EXISTING MANHOLE STRUCTURES AND CONSTRUCT THE NEW FLOW-THROUGH CHANNELS IN EACH MANHOLE BASE TO ACCOMMODATE THE NEW SEWER LINES AS REQUIRED. SMOOTH TRANSITIONS SHALL BE INSTALLED FROM THE INVERTS OF NEWLY INSTALLED PIPES TO THE EXISTING MANHOLE STRUCTURES. MANHOLES SHALL BE CORE DRILLED AND MANHOLE CONNECTION FITTINGS SHALL BE CONNECTED TO THE CORE DRILLED HOLE BY LINK-SEAL, OR APPROVED EQUAL. THE FIRST FLEXIBLE JOINT SHALL BE LOCATED WITHIN ONE-FOOT OF THE MANHOLE BASE. JACK HAMMERING SHALL NOT BE ALLOWED.
43. ALL NEW CONNECTIONS TO EXISTING SEWER SHALL BE MADE TO EXISTING WYES OR SHALL BE MADE BY INSTALLING NEW MANUFACTURED WYES. FOR INSTALLING NEW MANUFACTURED WYES, STANDARD BELL AND SPIGOT OR PLAIN END WYES AND PLAIN END PIPE SPOOLS MATCHING THE ADJACENT EXISTING PIPE MAY BE USED FOR INSERTING WYES INTO AN EXISTING SEWER. GASKETED PVC SADDLE WYES MAY BE USED FOR EXISTING SEWER MAINS 10-INCHES AND LARGER. ALL CONNECTIONS NOT MADE TO EXISTING WYES MUST BE IN ACCORDANCE WITH LWD STANDARD DRAWING S-32.
44. IF NECESSARY DURING THE LATERAL CONNECTION WORK, UPSTREAM FLOW IN THE EXISTING SEWER SHALL BE TEMPORARILY PLUGGED AND BY-PASSED. A BY-PASS PLAN IN ACCORDANCE WITH LWD STANDARD DRAWING S-32 MUST BE REVIEWED AND APPROVED BY THE LWD DISTRICT ENGINEER PRIOR TO INSTALLING THE TEMPORARY PLUG.

LEUCADIA WASTEWATER DISTRICT

APPROVED <u>2/25/2022</u> 		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

GENERAL NOTES - 5

STD. DWG. NO.

GN-5

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GENERAL NOTES

45. FOR CONNECTION OF PLAIN END TO PLAIN END PVC SEWER, REPAIR COUPLINGS SHALL BE MADE OF PVC MATERIAL MEETING THE SAME MATERIAL REQUIREMENTS AS THE PIPE BEING REPAIRED. PVC SEWER REPAIR COUPLINGS SHALL BE RUBBER GASKETED WITH NO CENTER STOP. PIPE ENDS SHALL BE THOROUGHLY CLEANED PRIOR TO INSTALLATION OF THE REPAIR COUPLING(S). THE REPAIR COUPLING SHALL BE SLIPPED ALL THE WAY ON TO ONE PLAIN END PIPE, THEN THE PIPE AND ADJOINING PIPES SHALL BE ALIGNED TOGETHER AND THE REPAIR COUPLING SLIPPED BACK INTO A POSITION EQUALLY SPACED BETWEEN THE TWO PLAIN END PIPES. PVC SEWER REPAIR COUPLINGS SHALL BE AS MANUFACTURED BY PW PIPE OR EQUAL APPROVED BY THE LWD DISTRICT ENGINEER.

46. PVC OR VITRIFIED CLAY PIPE (VCP) SEWER PIPE AND WYES MAY BE USED TO TIE-IN TO EXISTING VCP. FOR CONNECTION OR REPAIR OF PLAIN END VCP TO VCP OR VCP TO PVC, A FERNCO SERIES 5000 COUPLING OR APPROVED EQUAL SHALL BE USED. THE CONNECTION SHALL BE CONCRETE ENCASED A MINIMUM 12" ON EACH SIDE OF THE COUPLING.

47. FOR CONNECTION OF NEW LATERALS TO EXISTING PIPE GREATER THAN 8-INCH DIAMETER CONTRACTOR SHALL CUT IN A NEW WYE PER ABOVE OR MAY USE A SUITABLY SIZED SEWER SADDLE WYE PER STD. DWG. S-32.

48. CONTRACTOR SHALL BE AWARE THAT LWD FACILITIES PROVIDE WASTEWATER CONVEYANCE, TREATMENT, AND DISPOSAL TO THE PUBLIC 24 HOURS A DAY, 365 DAYS A YEAR. THEREFORE, LWD OR THEIR CONTRACTORS MAY NEED ACCESS TO FACILITIES FOR OPERATIONS, MAINTENANCE, OR EMERGENCY REPAIR AT ANY TIME. THE CONTRACTOR WILL ENSURE THAT ACCESS TO THE FACILITIES IS MAINTAINED AT ALL TIMES (DURING CONSTRUCTION AND AT THE END OF EACH CONSTRUCTION DAY) AND SHALL NOT HINDER AND WOULD BE EXPECTED TO ASSIST WITH ACCESS WHILE WORKING AROUND LWD FACILITIES.

49. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT LWD FACILITIES AND STRUCTURES DURING CONSTRUCTION. SHOULD THE CONTRACTOR AT ANY TIME DAMAGE LWD OR PRIVATE SEWER LATERAL FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK, NOTIFY LWD, MINIMIZE AND CONTROL ANY SEWAGE SPILL, AND REPAIR DAMAGED FACILITIES TO THE SATISFACTION OF LWD AT NO COST TO LWD INCLUDING INSPECTION AND ANY BYPASSING REQUIRED. DAMAGE CAUSED TO SEWER FACILITIES SHALL BE REPAIRED IN ACCORDANCE WITH ALL APPLICABLE LWD STANDARD SPECIFICATIONS AND DRAWINGS. SUBMIT FOR LWD APPROVAL PRIOR TO REPAIR.

LEUCADIA WASTEWATER DISTRICT

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MMS	KLH	DSW

GENERAL NOTES - 6

STD. DWG. NO.

GN-6

GENERAL NOTES


- 50. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PREVENTING SEWAGE SPILLS; CONTAINING ANY SEWAGE SPILLS; RECOVERY AND LEGAL DISPOSAL OF ANY SPILLED SEWAGE ARISING FROM ANY WORK ADJACENT TO LWD FACILITIES OR ALLOWING A SEWAGE SPILL OR FAILURE TO PREVENT A SEWAGE SPILL WHILE PERFORMING THE WORK. CONTRACTOR WILL BE RESPONSIBLE FOR ALL CLEAN-UP COSTS AND PENALTIES ASSESSED TO THE DISTRICT AS A RESULT OF A SEWAGE SPILL CAUSED BY THE CONTRACTOR.

- 51. CONTRACTOR SHALL NOTIFY LWD A WEEK IN ADVANCE OF PLANNED CONSTRUCTION ACTIVITIES IN THE AREA OF WORK POTENTIALLY AFFECTING LWD SEWER FACILITIES.

- 52. CONTRACTOR SHALL NOTIFY LWD 48 HOURS PRIOR TO EXCAVATION OF SEWER UNDER CROSSINGS, OVERCROSSINGS, OR PARALLEL INSTALLATIONS WHERE SEWER MAY BE EXPOSED.

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LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022 		
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DRAWN	CHKD.	REV.
MMS	KLH	DSW

GENERAL NOTES - 7

STD. DWG. NO.


GN-7

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STANDARD SEWER LATERAL NOTES FOR MINOR GRADING PLANS AND STAND-ALONE LATERAL PLANS

1. LWD APPROVAL OF THESE PLANS DOES NOT RELIEVE THE APPLICANT, PRIVATE ENGINEER OF WORK, OR CONTRACTOR FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING OR AFTER CONSTRUCTION.
2. ALL DESIGN, MATERIALS, AND CONSTRUCTION WORK SHALL CONFORM TO THE LWD SEWER STANDARD SPECIFICATIONS AND TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK) AND THE REGIONAL STANDARD DRAWINGS, MOST CURRENT EDITIONS. IN THE EVENT OF CONFLICT THE LWD SEWER STANDARD SPECIFICATIONS GOVERN.
3. OSHA SAFETY ORDERS AND OSHA CONFINED SPACE ENTRY REQUIREMENTS SHALL BE FOLLOWED AT ALL TIMES WITHOUT EXCEPTION.
4. THE CONTRACTOR SHALL HAVE A COPY OF THE DOCUMENTS SPECIFIED IN SEWER NOTES 2 & 3 ON THE JOBSITE AT ALL TIMES.
5. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY LWD AND SHALL REPAIR OR REPLACE ANY WORK THAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIALS WITHIN THE ONE YEAR PERIOD WITHOUT EXPENSE WHATSOEVER TO LWD.
6. PRIOR TO BEGINNING SEWER WORK, CONTRACTOR SHALL SECURE A LWD PERMIT FOR CONSTRUCTION AND SHALL PROVIDE A MINIMUM OF 72 HOURS NOTICE TO LWD PRIOR TO CONSTRUCTION.
7. APPROVAL OF THIS PLAN BY LWD DOES NOT CONSTITUTE A REPRESENTATION OF 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.
8. ALL REVISIONS TO DRAWINGS SHALL BE APPROVED BY THE LWD DISTRICT ENGINEER IN WRITING PRIOR TO CONSTRUCTION.
9. CONNECTIONS TO EXISTING SEWER PIPE OR MANHOLES SHALL ONLY BE DONE IN THE DIRECT PRESENCE OF THE LWD INSPECTOR. NEW SEWER SHALL NOT BE CONNECTED OR ALLOWED TO FLOW TO EXISTING SEWER UNTIL AFTER FINAL ACCEPTANCE OF ALL UPSTREAM WORK BY THE LWD INSPECTOR, OR AS APPROVED BY DISTRICT ENGINEER.

LEUCADIA WASTEWATER DISTRICT

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DRAWN	CHKD.	REV.
MMS	KLH	DSW


STANDARD SEWER LATERAL NOTES
 FOR MINOR GRADING PLANS AND
 STAND-ALONE LATERAL PLANS - 1

STD. DWG. NO.
LN-1

STANDARD SEWER LATERAL NOTES FOR MINOR GRADING PLANS

10. ALL SERVICE LATERALS SHALL BE LOCATED AT RIGHT ANGLES TO THE SEWER MAIN UNLESS OTHERWISE SHOWN AS APPROVED BY LWD ON THE PLANS.
11. A 2-INCH HIGH "S" SHALL BE INSCRIBED ON THE CURB FACE AT EACH LATERAL LOCATION BY THE CONTRACTOR.
12. ALL LATERALS SHALL BE CONSTRUCTED CLEAR OF DRIVEWAYS.
13. ALL SEWERS AND LATERALS SHALL BE WAYNE BALLED OR JETTED, LOW PRESSURE AIR TESTED, AND TELEVISED AT THE APPLICANT/CONTRACTORS EXPENSE PRIOR TO CONSIDERATION FOR FINAL ACCEPTANCE BY LWD. AIR TEST SHALL BE DONE AFTER CONSTRUCTION OF ALL OTHER UTILITIES AND UTILITY LATERALS.
14. ALL SEWERS AND LATERALS SHALL BE IN PLACE AND SHALL HAVE FINAL APPROVAL BY THE LWD INSPECTOR PRIOR TO BACKFILL.
15. ALL NEW CONNECTIONS TO EXISTING SEWER SHALL BE MADE TO EXISTING WYES OR SHALL BE MADE BY INSTALLING NEW MANUFACTURED WYES. FOR INSTALLING NEW MANUFACTURED WYES, STANDARD BELL AND SPIGOT OR PLAIN END WYES AND PLAIN END PIPE SPOOLS MATCHING THE ADJACENT EXISTING PIPE MAY BE USED FOR INSERTING WYES INTO AN EXISTING SEWER. GASKETED PVC SADDLE WYES MAY BE USED FOR EXISTING SEWER MAINS 10-INCHES AND LARGER. ALL CONNECTIONS NOT MADE TO EXISTING WYES MUST BE IN ACCORDANCE WITH LWD STANDARD DRAWING S-32.
16. FOR CONNECTION OF NEW LATERALS TO EXISTING PIPE GREATER THAN 8-INCH DIAMETER CONTRACTOR SHALL CUT IN A NEW WYE PER ABOVE OR MAY USE A SUITABLY SIZED SEWER SADDLE WYE PER STD. DWG. S-32.
17. IF NECESSARY DURING THE LATERAL CONNECTION WORK, UPSTREAM FLOW IN THE EXISTING SEWER SHALL BE TEMPORARILY PLUGGED AND BY-PASSED. A BY-PASS PLAN IN ACCORDANCE WITH LWD STANDARD DRAWING S-32 MUST BE REVIEWED AND APPROVED BY THE LWD DISTRICT ENGINEER PRIOR TO INSTALLING THE TEMPORARY PLUG.
18. FOR CONNECTION OF PLAIN END TO PLAIN END PVC SEWER, REPAIR COUPLINGS SHALL BE MADE OF PVC MATERIAL MEETING THE SAME MATERIAL REQUIREMENTS AS THE PIPE BEING REPAIRED. PVC SEWER REPAIR COUPLINGS SHALL BE RUBBER GASKETED WITH NO CENTER STOP. PIPE ENDS SHALL BE THOROUGHLY CLEANED PRIOR TO INSTALLATION OF THE REPAIR COUPLING(S). THE REPAIR COUPLING SHALL BE SLIPPED ALL THE WAY ON TO ONE PLAIN END PIPE, THEN THE PIPE AND ADJOINING PIPES SHALL BE ALIGNED TOGETHER AND THE REPAIR COUPLING SLIPPED BACK INTO A POSITION EQUALLY SPACED BETWEEN THE TWO PLAIN END PIPES. PVC SEWER REPAIR COUPLINGS SHALL BE AS MANUFACTURED BY PW PIPE OR EQUAL APPROVED BY THE LWD DISTRICT ENGINEER.

LEUCADIA WASTEWATER DISTRICT

APPROVED  2/25/2022

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DRAWN	CHKD.	REV.
MMS	KLH	DSW

**STANDARD SEWER LATERAL NOTES
FOR MINOR GRADING PLANS - 2**

STD. DWG. NO.

LN-2

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\FINAL DRAFT\STANDARD DRAWINGS\LWD_LN-2.DWG 02-04-22 15:29:47 LAYOUT: LN-2

STANDARD SEWER LATERAL NOTES FOR MINOR GRADING PLANS


19. PVC OR VITRIFIED CLAY PIPE (VCP) SEWER PIPE AND WYES MAY BE USED TO TIE-IN TO EXISTING VCP. FOR CONNECTION OR REPAIR OF PLAIN END VCP TO VCP OR VCP TO PVC, A FERNCO SERIES 5000 COUPLING OR APPROVED EQUAL SHALL BE USED. THE CONNECTION SHALL BE CONCRETE ENCASED A MINIMUM 12" ON EACH SIDE OF THE COUPLING.

20. FINAL APPROVAL OF PLANS BY DISTRICT ENGINEER IS VALID FOR A PERIOD OF TIME NOT TO EXCEED ONE YEAR FROM APPROVAL DATE TO START OF CONSTRUCTION. IF THE ONE YEAR TIME LIMIT IS EXPIRED PRIOR TO START OF CONSTRUCTION THE DEVELOPER SHALL RESUBMIT THE PLAN CHECK TO THE DISTRICT ENGINEER FOR AN UPDATED REVIEW AND APPROVAL. ANY CHANGES REQUIRED TO THE PLANS SHALL BE MADE AT THE DEVELOPERS EXPENSE AND APPROVED BY THE LWD DISTRICT ENGINEER PRIOR TO THE START OF CONSTRUCTION.

21. CONTRACTOR SHALL BE AWARE THAT LWD FACILITIES PROVIDE WASTEWATER CONVEYANCE, TREATMENT, AND DISPOSAL TO THE PUBLIC 24 HOURS A DAY, 365 DAYS A YEAR. THEREFORE, LWD OR THEIR CONTRACTORS MAY NEED ACCESS TO FACILITIES FOR OPERATIONS, MAINTENANCE, OR EMERGENCY REPAIR AT ANY TIME. THE CONTRACTOR WILL ENSURE THAT ACCESS TO THE FACILITIES IS MAINTAINED AT ALL TIMES (DURING CONSTRUCTION AND AT THE END OF EACH CONSTRUCTION DAY) AND SHALL NOT HINDER AND WOULD BE EXPECTED TO ASSIST WITH ACCESS WHILE WORKING AROUND LWD FACILITIES.

22. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT LWD FACILITIES AND STRUCTURES DURING CONSTRUCTION. SHOULD THE CONTRACTOR AT ANY TIME DAMAGE LWD OR PRIVATE SEWER LATERAL FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK, NOTIFY LWD, MINIMIZE AND CONTROL ANY SEWAGE SPILL AND REPAIR DAMAGED FACILITIES TO THE SATISFACTION OF LWD AT NO COST TO LWD INCLUDING INSPECTION AND ANY BYPASSING REQUIRED. DAMAGE CAUSED TO SEWER FACILITIES SHALL BE REPAIRED IN ACCORDANCE WITH ALL APPLICABLE LWD STANDARD SPECIFICATIONS AND DRAWINGS. SUBMIT FOR LWD APPROVAL PRIOR TO REPAIR.

LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022 		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

**STANDARD SEWER LATERAL NOTES
FOR MINOR GRADING PLANS - 3**

STD. DWG. NO.
LN-3


\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\FINAL DRAFT\STANDARD DRAWINGS\LWD_LN-3.DWG 02-04-22 15:31:01 LAYOUT: LN-3

STANDARD SEWER LATERAL NOTES FOR MINOR GRADING PLANS

- 23. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PREVENTING SEWAGE SPILLS; CONTAINING ANY SEWAGE SPILLS; RECOVERY AND LEGAL DISPOSAL OF ANY SPILLED SEWAGE ARISING FROM ANY WORK ADJACENT TO LWD FACILITIES OR ALLOWING A SEWAGE SPILL OR FAILURE TO PREVENT A SEWAGE SPILL WHILE PERFORMING THE WORK. CONTRACTOR WILL BE RESPONSIBLE FOR ALL CLEAN-UP COSTS AND PENALTIES ASSESSED TO THE DISTRICT AS A RESULT OF A SEWAGE SPILL CAUSED BY THE CONTRACTOR.
- 24. CONTRACTOR SHALL NOTIFY LWD A WEEK IN ADVANCE OF PLANNED CONSTRUCTION ACTIVITIES IN THE AREA OF WORK POTENTIALLY AFFECTING LWD SEWER FACILITIES.
- 25. CONTRACTOR SHALL NOTIFY LWD 48 HOURS PRIOR TO EXCAVATION OF SEWER UNDER CROSSINGS, OVERCROSSINGS, OR PARALLEL INSTALLATIONS WHERE SEWER MAY BE EXPOSED.

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LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022 		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

**STANDARD SEWER LATERAL NOTES
FOR MINOR GRADING PLANS - 4**


STD. DWG. NO.

LN-4

PROTECTION NOTES FOR MISCELLANEOUS PLANS

1. LWD APPROVAL OF THESE PLANS DOES NOT RELIEVE THE APPLICANT, PRIVATE ENGINEER OF WORK, OR CONTRACTOR FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING OR AFTER CONSTRUCTION.
2. ALL DESIGNS, MATERIALS, AND CONSTRUCTION WORK SHALL CONFORM TO LEUCADIA WASTEWATER DISTRICT (LWD) STANDARD SPECIFICATIONS, AVAILABLE ON THE LWD WEBSITE, AND TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK) AND THE REGIONAL STANDARD DRAWINGS, MOST CURRENT EDITIONS. IN THE EVENT OF CONFLICT, THE LWD SEWER STANDARDS GOVERN.
3. OSHA SAFETY ORDERS AND OSHA CONFINED SPACE ENTRY REQUIREMENTS SHALL BE FOLLOWED AT ALL TIMES WITHOUT EXCEPTION.
4. THE CONTRACTOR SHALL HAVE A COPY OF THE DOCUMENTS LISTED IN SEWER NOTES 2 & 3 ON THE JOBSITE AT ALL TIMES.
5. NO WORK SHALL BE COMMENCED UNTIL ALL RIGHT-OF-WAY AND OTHER REQUIRED PERMITS HAVE BEEN OBTAINED FROM THE JURISDICTIONAL CITY, COUNTY, AND/OR APPROPRIATE AGENCIES.
6. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS OBTAINED BY AVAILABLE RECORDS SEARCH BY THE PRIVATE ENGINEER. TO THE BEST OF THE PRIVATE ENGINEER'S KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITIES OR STRUCTURES NOT SHOWN, OR IN A DIFFERENT LOCATION FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND OTHER EXISTING FACILITIES OR STRUCTURES SHOWN.
7. APPROVAL OF THIS PLAN BY LWD DOES NOT CONSTITUTE A REPRESENTATION OF 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.

LEUCADIA WASTEWATER DISTRICT

APPROVED <u>2/25/2022</u> 		
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**PROTECTION NOTES FOR
MISCELLANEOUS PLANS - 1**


STD. DWG. NO.
PN-1

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\FINAL DRAFT\STANDARD DRAWINGS\LWD_PN-1.DWG 02-04-22 15:36:48 LAYOUT: PN-1

PROTECTION NOTES FOR MISCELLANEOUS PLANS

8. CONTRACTOR SHALL BE AWARE THAT LWD FACILITIES PROVIDE WASTEWATER CONVEYANCE, TREATMENT, AND DISPOSAL TO THE PUBLIC 24 HOURS A DAY, 365 DAYS A YEAR. THEREFORE, LWD OR THEIR CONTRACTORS MAY NEED ACCESS TO FACILITIES FOR OPERATIONS, MAINTENANCE, OR EMERGENCY REPAIR AT ANY TIME. THE CONTRACTOR WILL ENSURE THAT ACCESS TO THE FACILITIES IS MAINTAINED AT ALL TIMES (DURING CONSTRUCTION AND AT THE END OF EACH CONSTRUCTION DAY) AND SHALL NOT HINDER AND WOULD BE EXPECTED TO ASSIST WITH ACCESS WHILE WORKING AROUND LWD FACILITIES.
9. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT LWD FACILITIES AND STRUCTURES DURING CONSTRUCTION. SHOULD THE CONTRACTOR AT ANY TIME DAMAGE LWD OR PRIVATE SEWER LATERAL FACILITIES, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK, NOTIFY LWD, MINIMIZE AND CONTROL ANY SEWAGE SPILL AND REPAIR DAMAGED FACILITIES TO THE SATISFACTION OF LWD AT NO COST TO LWD INCLUDING INSPECTION AND ANY BYPASSING REQUIRED. DAMAGE CAUSED TO SEWER FACILITIES SHALL BE REPAIRED IN ACCORDANCE WITH ALL APPLICABLE LWD STANDARD SPECIFICATIONS AND DRAWINGS. SUBMIT FOR LWD APPROVAL PRIOR TO REPAIR.
10. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PREVENTING SEWAGE SPILLS; CONTAINING ANY SEWAGE SPILLS; RECOVERY AND LEGAL DISPOSAL OF ANY SPILLED SEWAGE ARISING FROM ANY WORK ADJACENT TO LWD FACILITIES OR ALLOWING A SEWAGE SPILL OR FAILURE TO PREVENT A SEWAGE SPILL WHILE PERFORMING THE WORK. CONTRACTOR WILL BE RESPONSIBLE FOR ALL CLEAN-UP COSTS AND PENALTIES ASSESSED TO THE DISTRICT AS A RESULT OF A SEWAGE SPILL CAUSED BY THE CONTRACTOR.
11. CONTRACTOR SHALL NOTIFY LWD A WEEK IN ADVANCE OF PLANNED CONSTRUCTION ACTIVITIES IN THE AREA OF WORK POTENTIALLY AFFECTING LWD SEWER FACILITIES.
12. CONTRACTOR SHALL NOTIFY LWD 48 HOURS PRIOR TO EXCAVATION OF SEWER UNDER CROSSINGS, OVERCROSSINGS, OR PARALLEL INSTALLATIONS WHERE SEWER MAY BE EXPOSED.

LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022 		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

**PROTECTION NOTES FOR
MISCELLANEOUS PLANS - 2**

STD. DWG. NO.

PN-2

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\FINAL DRAFT\STANDARD DRAWINGS\LWD_PN-2.DWG 02-04-22 15:40:52 LAYOUT: PN-2

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\FINAL DRAFT\STANDARD DRAWINGS\LWD_S-1.DWG 02-04-22 16:09:50 LAYOUT: S-1

DESCRIPTION	SYMBOL	LWD STD. DWG. NO.	QUANTITY
SEWER MAIN		S-11, S-12	LF
SEWER MANHOLE		S-3, S-4, S-5	EA
TERMINAL MANHOLE		S-31	EA
CONCRETE ENCASEMENT		S-15	LF
CUT OFF WALL		S-16	EA
SEWER LATERAL		S-17, S-18, S-25	EA
PVC FORCEMAIN			LF
DISTRICT BOUNDARY			
EDGE OF PAVEMENT			
EXISTING SEWER LATERAL			
EXISTING WATER LATERAL			
EXISTING GAS LINE. "HP" INDICATES HIGH PRESSURE.			
EXISTING ELECTRIC CONDUIT/CABLE "OH" INDICATES OVERHEAD			
EXISTING TELEPHONE CONDUIT(S)			
EXISTING TELEVISION CONDUIT(S)			
EXISTING WATER PIPE			
EXISTING SEWER			
EXISTING STORM DRAIN			
EXISTING POWER POLE & GUY WIRE			
EXISTING SIGN			
EXISTING MANHOLE			
EXISTING STREET LIGHT			
EXISTING FENCE			
EXISTING TRAFFIC SIGNAL			
EXISTING VALVE BOX COVER			
EXISTING FIRE HYDRANT			

LEUCADIA WASTEWATER DISTRICT

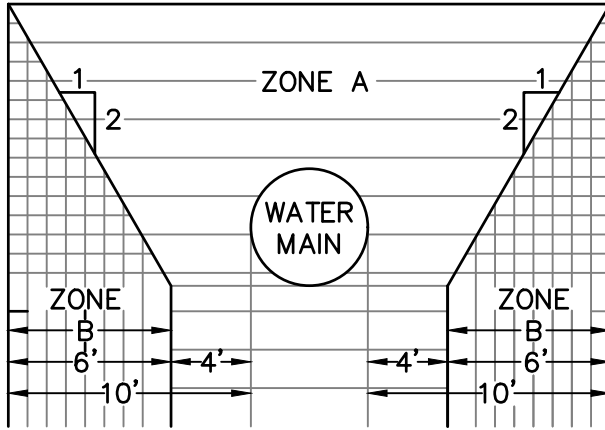
APPROVED 2/25/2022		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

STANDARD SYMBOLS AND LEGEND

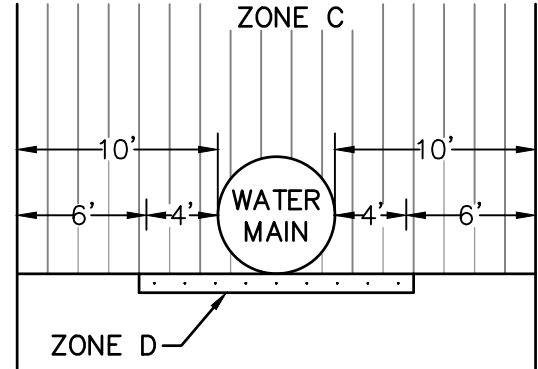
STD. DWG. NO.
S-1

WATER & SEWER MAINS SHALL BE INSTALLED IN SEPARATE TRENCHES. SEWERS SHALL BE INSTALLED AT LEAST 10-FOOT HORIZONTALLY FROM EXISTING OR NEW WATER MAINS.

PARALLEL CONSTRUCTION



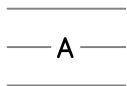
PERPENDICULAR CONSTRUCTION



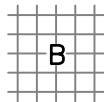
NOTES: DIMENSIONS ARE FROM OUTSIDE OF WATER MAIN TO OUTSIDE OF SEWER

SANITARY SEWERS ARE NOT PERMITTED WITHIN ANY OF THE ABOVE INDICATED ZONES UNLESS CONSTRUCTED IN CONFORMANCE WITH THE SPECIAL REQUIREMENTS AS SHOWN BELOW.

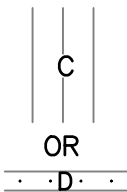
ZONE	SPECIAL SEWER CONSTRUCTION REQUIREMENTS
------	---



SEWER LINES WILL NOT BE PERMITTED IN THIS ZONE WITHOUT SPECIAL WRITTEN PERMISSION FROM THE DIVISION OF DRINKING WATER.



EXTRA-STRENGTH VITRIFIED CLAY WITH COMPRESSION JOINT; OR RUBBER GASKETED PLASTIC PIPE.



SEWER PIPE WITHIN A CONTINUOUS STEEL CASING, WHICH CASING SHALL HAVE A THICKNESS OF NOT LESS THAN ONE-FOURTH INCH AND WITH ALL VOIDS BETWEEN SEWER PIPE AND CASING PRESSURE GROUTED WITH SAND CEMENT GROUT.

LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019

RCE C33692 EXP 6/30/2020

DRAWN	CHKD.	REV.
KWB	KLH	NJF

PIPELINE SEPARATION REQUIREMENTS

STD. DWG. NO.

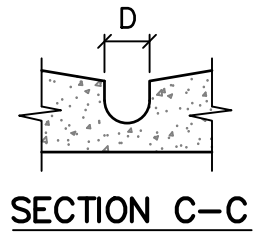
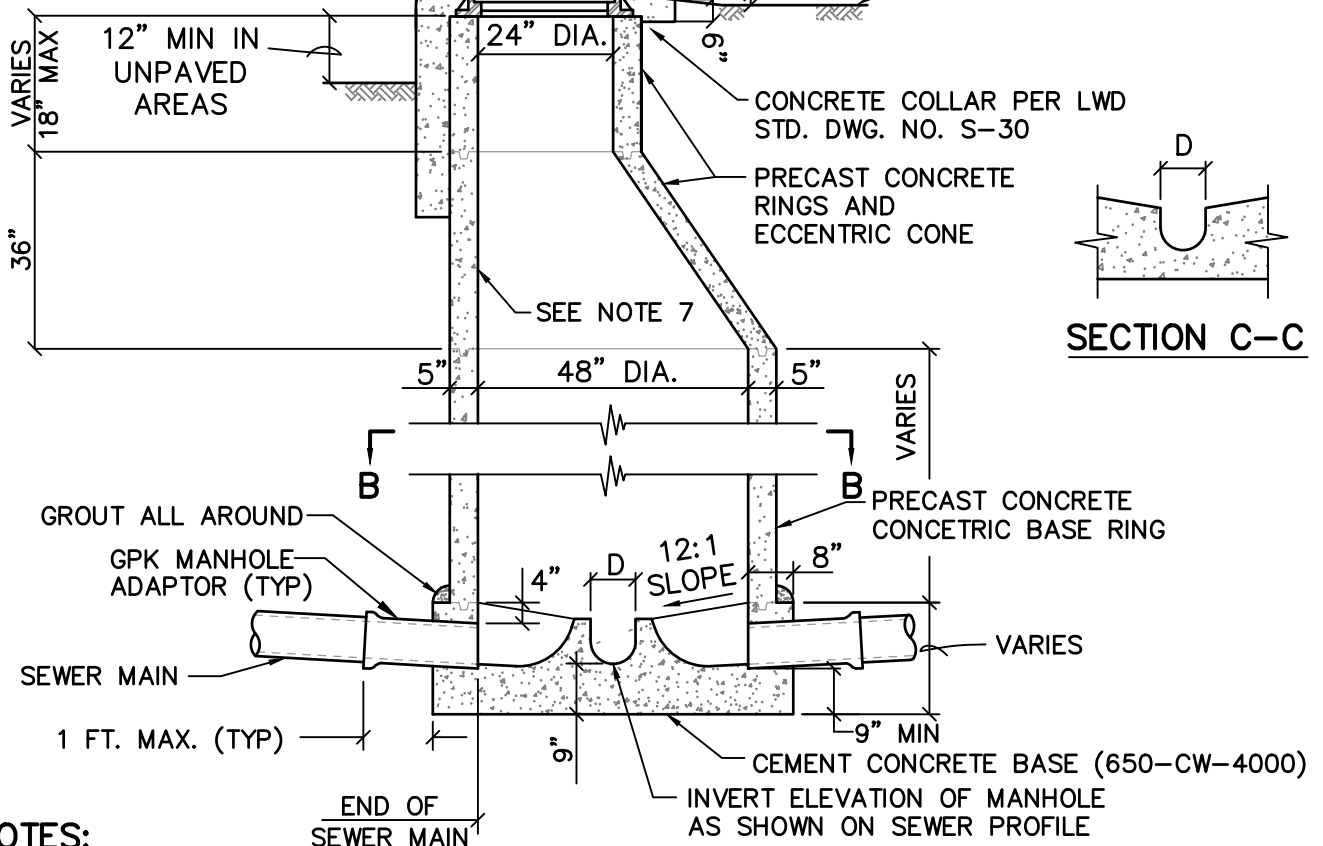
S-2

\\ARTIC\ENG\103500\STANDARD SPEC\2019 REVISION\STANDARD DRAWINGS\LWD_S-2.DWG 03-12-19 15:02:11 LAYOUT: S-2

ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-3.DWG 11-05-21 09:42:58 LAYOUT: S-3

STANDARD CAST IRON MANHOLE FRAME AND COVER, PER LWD STD. DWG. NO. S-6.
CEMENT IN PLACE WITH CEMENT MORTAR

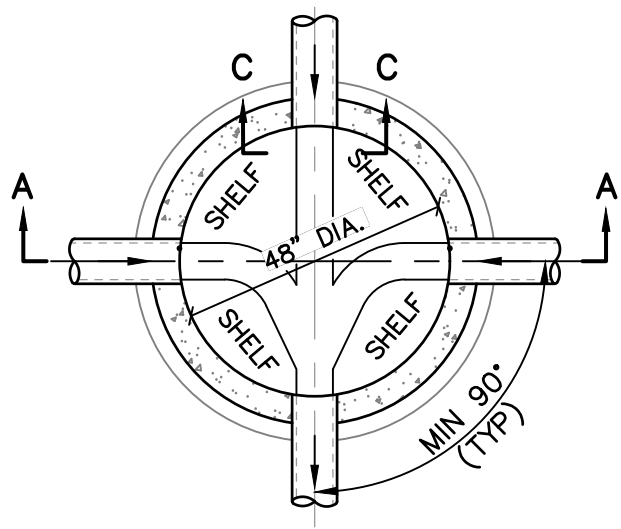
CONCRETE COLLAR PER LWD STD. DWG. NO. S-30



SECTION A-A

NOTES:

1. EACH PRECAST MFRG SHALL BE PRE-APPROVED BY LWD BASED ON MFRG SUBMITTAL OF MATERIALS AND PROCEDURES. SUCH PRE-APPROVAL SHALL BE UPDATED AT TIME OF ANY MATERIAL OR PROCEDURE CHANGES BY MFRG. OR NOT LESS THAN EVERY TWO YEARS.
2. CONCRETE TO BE 650-C-4000 PORTLAND CEMENT CONCRETE W/ TYPE V CEMENT.
3. ALL JOINTS SHALL BE FILLED W/ 2"X2" BUTYL RUBBER GASKET CPS-210 BY PRESS-SEAL OR EQUAL.
4. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478, LATEST EDITION.
5. VERTICAL WALL OF CONE SHALL BE UPSTREAM SIDE OF MANHOLE.
6. NO MANHOLE STEPS ALLOWED.
7. ALL NEW MANHOLES SHALL BE LINED WITH APPROVED LINERS FROM TABLE 502-1.1 OF THE LWD SEWER SPECS.
8. ALL EXISTING MANHOLES WITH NEW CONNECTIONS SHALL BE LINED W/ EPOXY.
9. GPK "SAND COLLAR" MH ADAPTORS SHALL BE PROVIDED FOR ALL MH CONNECTIONS.
10. ALL PATCHING WITHIN MANHOLE BASE SHALL BE EPOXY MORTAR.
11. ALL SEWER INLETS SHALL MATCH CROWNS.



SECTION B-B

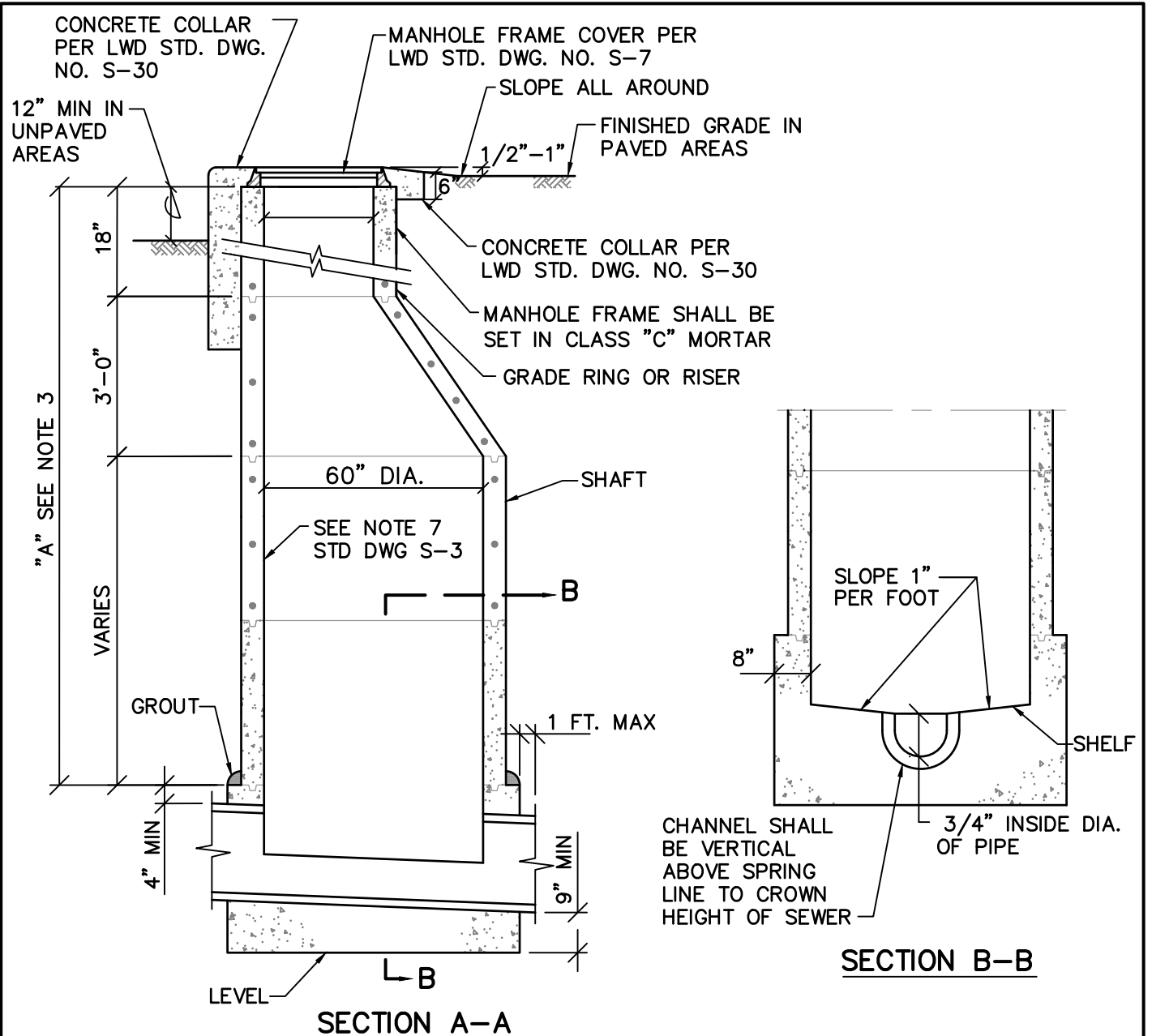
LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

**STANDARD PRECAST
CONCRETE MANHOLE (4' DIA.)**
(FOR 15-INCH MAXIMUM DIA. PIPE AND MAXIMUM 12-FOOT DEPTH)

STD. DWG. NO.
S-3

\\ARTIC\ENG\103500\STANDARD SPEC\2019 REVISION\STANDARD DRAWINGS\LWD_S-4.DWG 04-09-19 09:26:07 LAYOUT: S-4



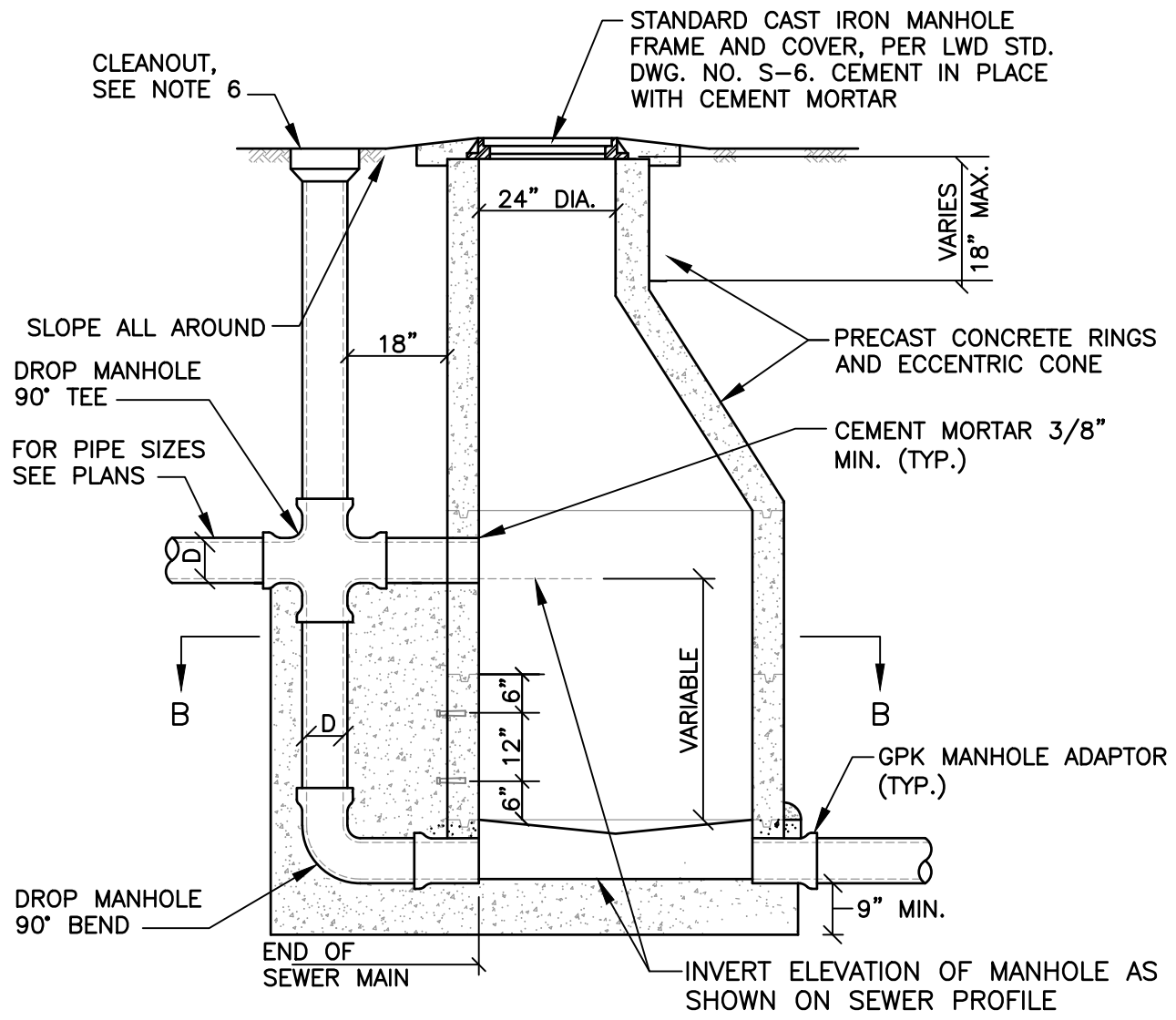
NOTES:

1. COMPLY WITH THE NOTE REQUIREMENTS OF LWD STD DWG S-3
2. GPK "SAND COLLAR" MH ADAPTORS SHALL BE PROVIDED FOR ALL MH CONNECTIONS.
3. PRECAST SECTIONS SHALL BE USED WITHIN DIMENSION "A" AS REQUIRED, IN ORDER OF PREFERENCE LISTED:
 - A. CONE (NOTCHED FOR PIPE IF DIMENSION "A" IS LESS THEN 3').
 - B. 6" TO 18" OF 3' DIAMETER GRADE RINGS/AND/OR RISERS.
 - C. 5' DIAMETER SHAFT VARIABLE HEIGHT.
4. ALL PATCHING WITHIN MANHOLE BASE SHALL BE EPOXY MORTAR.
5. PRIOR APPROVAL OF PRECAST BASE IS REQUIRED BY THE DISTRICT ENGINEER.
6. MAXIMUM ALLOWABLE CHANGE OF DIRECTION AT MH = 45°.
7. PROVIDE SPECIFIC DETAIL FOR REVIEW AND APPROVAL BY DISTRICT ENGINEER FOR MH'S W/ MORE THAN ONE INLET OR OUTLET, 18" OR LARGER.

LEUCADIA WASTEWATER DISTRICT

APPROVED <u>3/27/2019</u> RCE C33692 EXP 6/30/2020	STANDARD PRECAST CONCRETE MANHOLE (5' DIA.) (FOR 18-INCH & GREATER DIA. PIPE OR 12-FOOT AND GREATER DEPTH)	STD. DWG. NO. S-4						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">DRAWN</td> <td style="padding: 2px;">CHKD.</td> <td style="padding: 2px;">REV.</td> </tr> <tr> <td style="padding: 2px;">KWB</td> <td style="padding: 2px;">KLH</td> <td style="padding: 2px;">NJF</td> </tr> </table>	DRAWN	CHKD.	REV.	KWB	KLH	NJF		
DRAWN	CHKD.	REV.						
KWB	KLH	NJF						

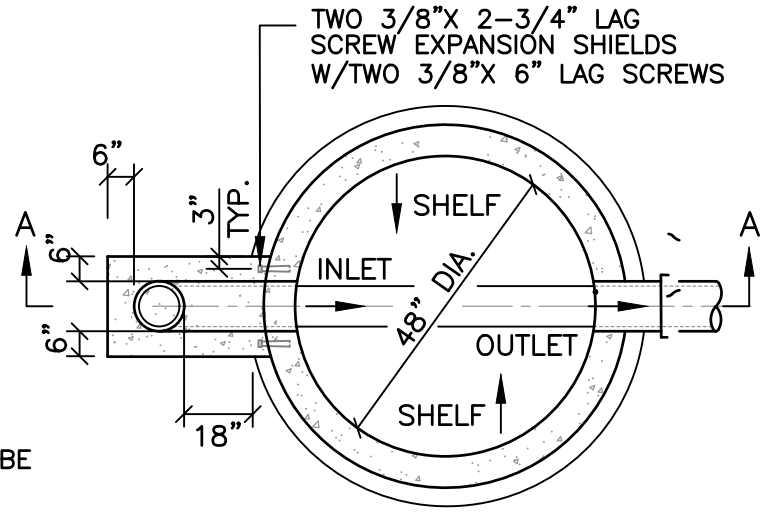
\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-5.DWG 11-05-21 09:50:25 LAYOUT: S-5



SECTION A-A

NOTES:

1. DROP MANHOLE SHALL BE IDENTICAL TO STANDARD CONCRETE MANHOLE, EXCEPT FOR PIPE DETAILS AS SHOWN.
2. THE DROP MANHOLE TEE SHALL ENTER THE 4' OR 5' DIA. RING.
3. CLEAN AND ROUGHEN OUTSIDE SURFACE OF RINGS AND APPLY BONDING AGENT CEMENT PRIOR TO POURING SUPPORT FOR DROP SECTION.
4. NO MANHOLE STEPS ALLOWED.
5. ALL NEW MANHOLES AND ALL EXISTING MANHOLES W/NEW CONNECTIONS SHALL BE LINED WITH EPOXY.
6. CLEANOUT FINISHED PER STANDARD DRAWING S-25 WITH "LWD SEWER" ON LID.



SECTION B-B

LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

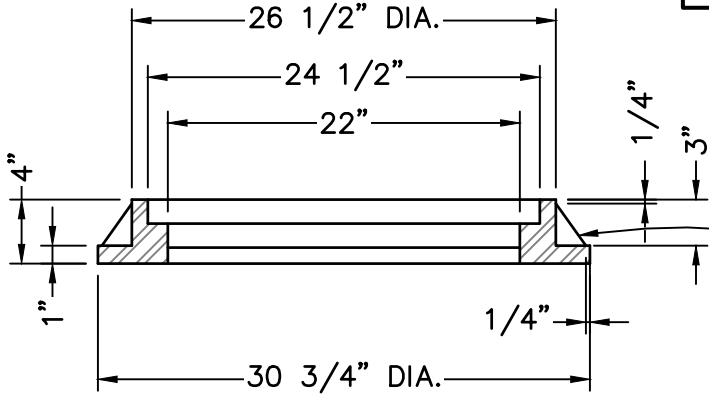
**STANDARD PRECAST
CONCRETE DROP MANHOLE**

STD. DWG. NO.
S-5

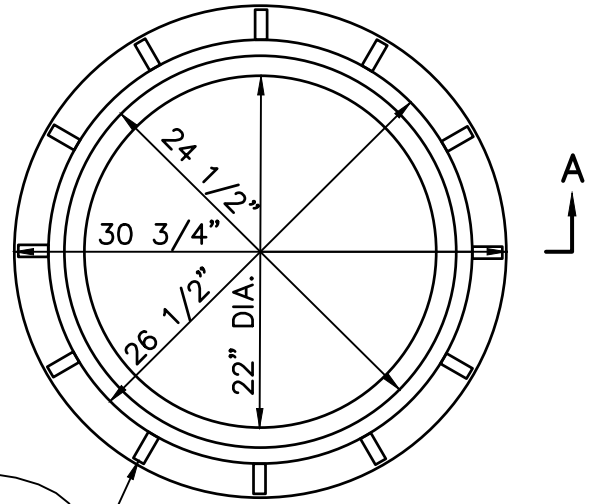
\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\FINAL DRAFT\STANDARD DRAWINGS\LWD_S-6.DWG 02-23-22 15:54:12 LAYOUT: S-6

NOTES:

1. ALHAMBRA A-1310, SOUTH BAY FOUNDRY 1310 OR APPROVED EQUAL.
2. DISTANCE FROM OUTER EDGE OF COVER TO INNER EDGE OF FRAME SHALL BE NO GREATER THAN 1/8".

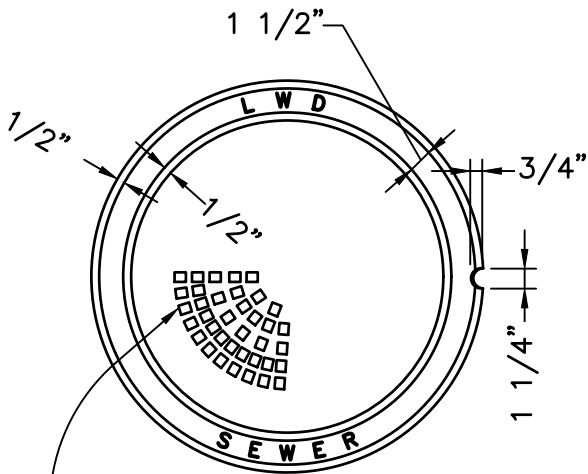


SECTION A-A

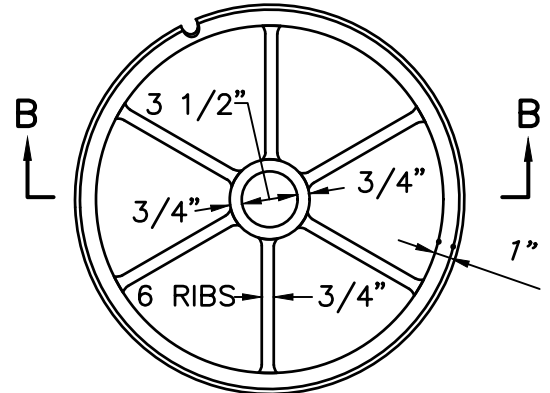


FRAME

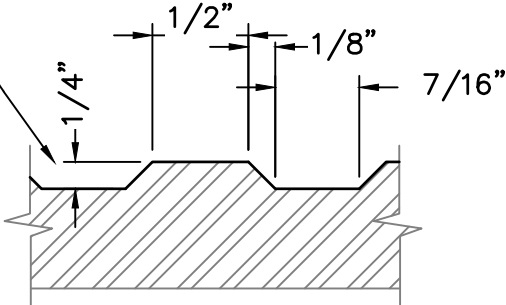
12 RIBS, EQUALLY SPACED



COVER



COVER BOTTOM



SECTION B-B

LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

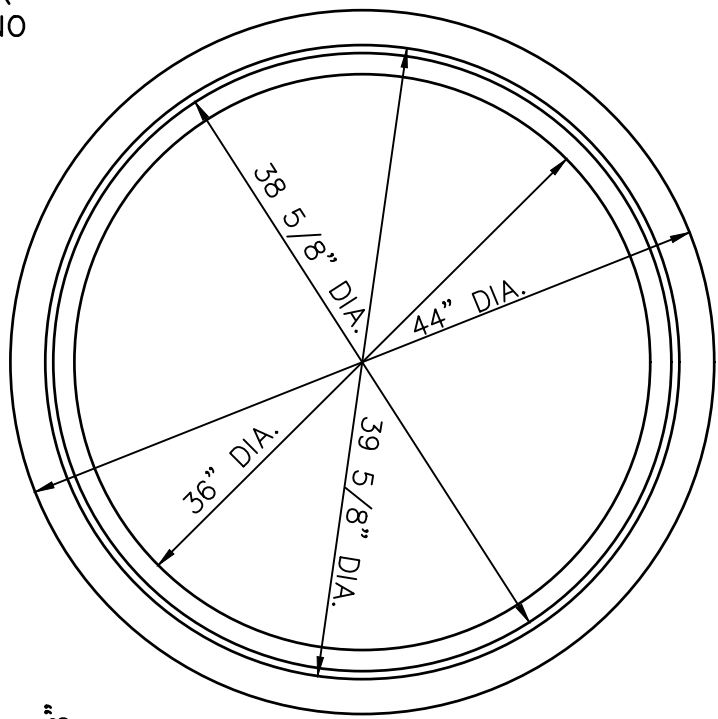
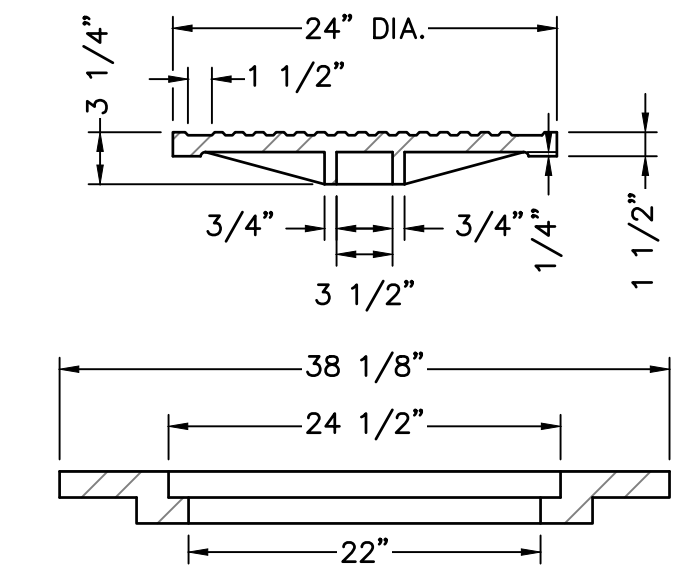
**STANDARD MANHOLE
 FRAME AND COVER
 (24" DIA.)**

STD. DWG. NO.
S-6

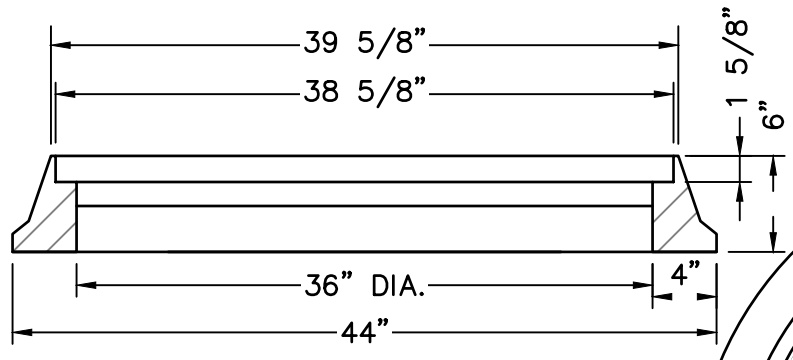
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NOTES:

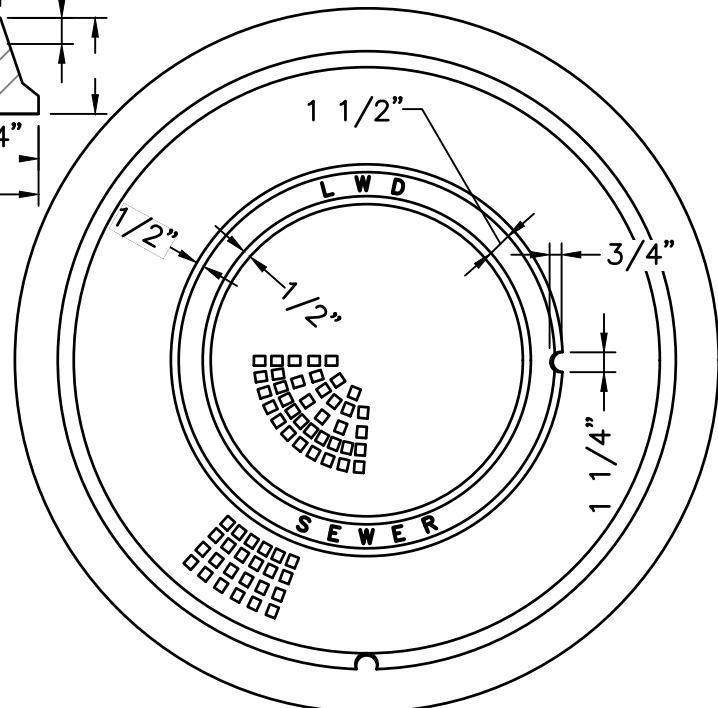
1. ALHAMBRA A-1325 SOUTH BAY
FOUNDRY 1325 OR APPROVED EQUAL.
2. DISTANCE FROM OUTER EDGE OF COVER
TO INNER EDGE OF FRAME SHALL BE NO
GREATER THAN 1/8".



FRAME



SECTION A-A



COVER

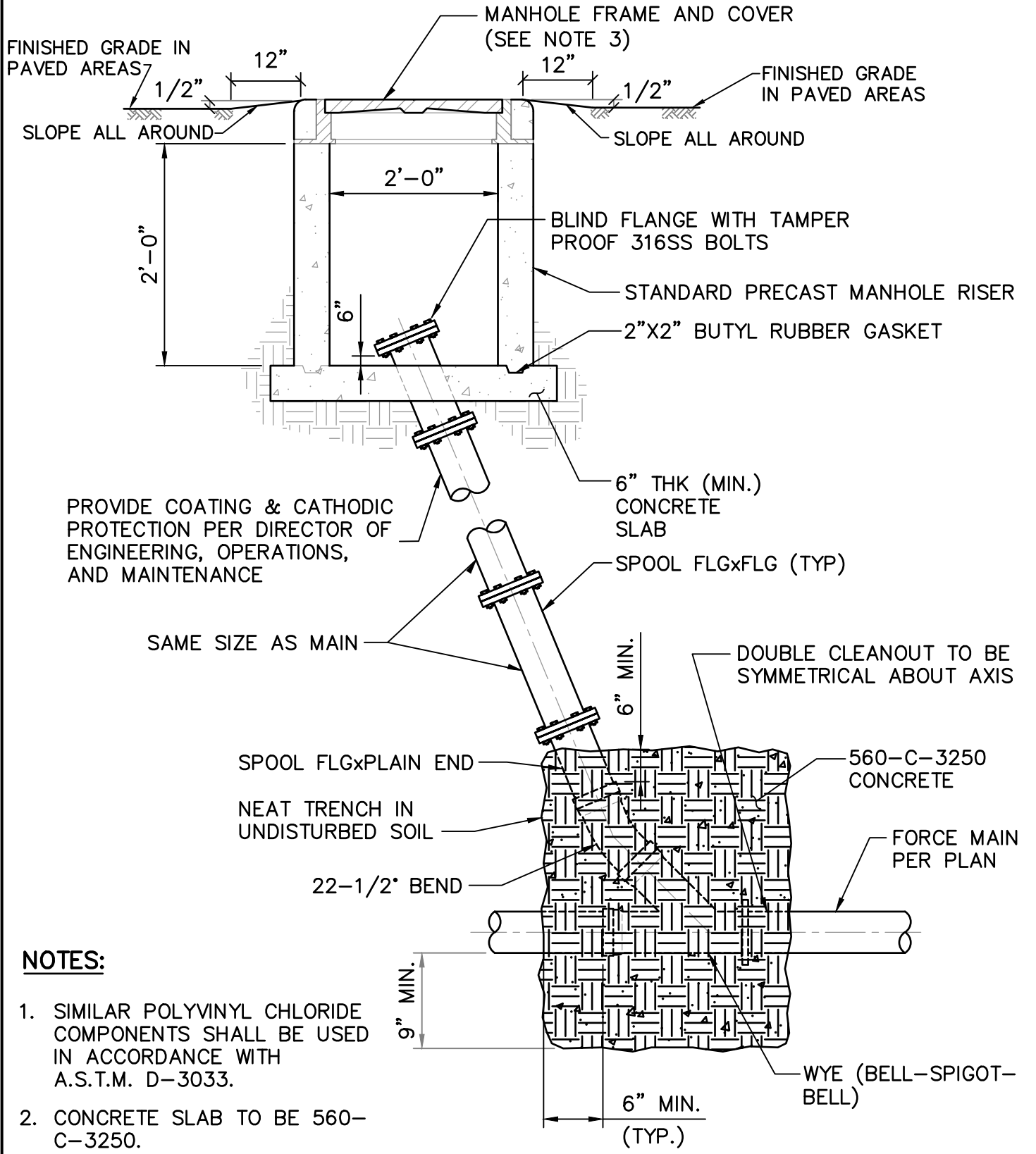
LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

36" MANHOLE FRAME AND
 TWO CONCENTRIC COVERS
 (HEAVY DUTY)

STD. DWG. NO.
S-7

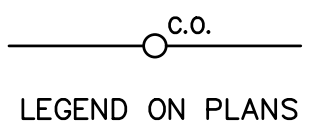
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PROVIDE COATING & CATHODIC PROTECTION PER DIRECTOR OF ENGINEERING, OPERATIONS, AND MAINTENANCE

NOTES:

- 1. SIMILAR POLYVINYL CHLORIDE COMPONENTS SHALL BE USED IN ACCORDANCE WITH A.S.T.M. D-3033.
- 2. CONCRETE SLAB TO BE 560-C-3250.
- 3. USE MANHOLE FRAME AND COVER, SEE LWD STD. DWG. NO. S-6.



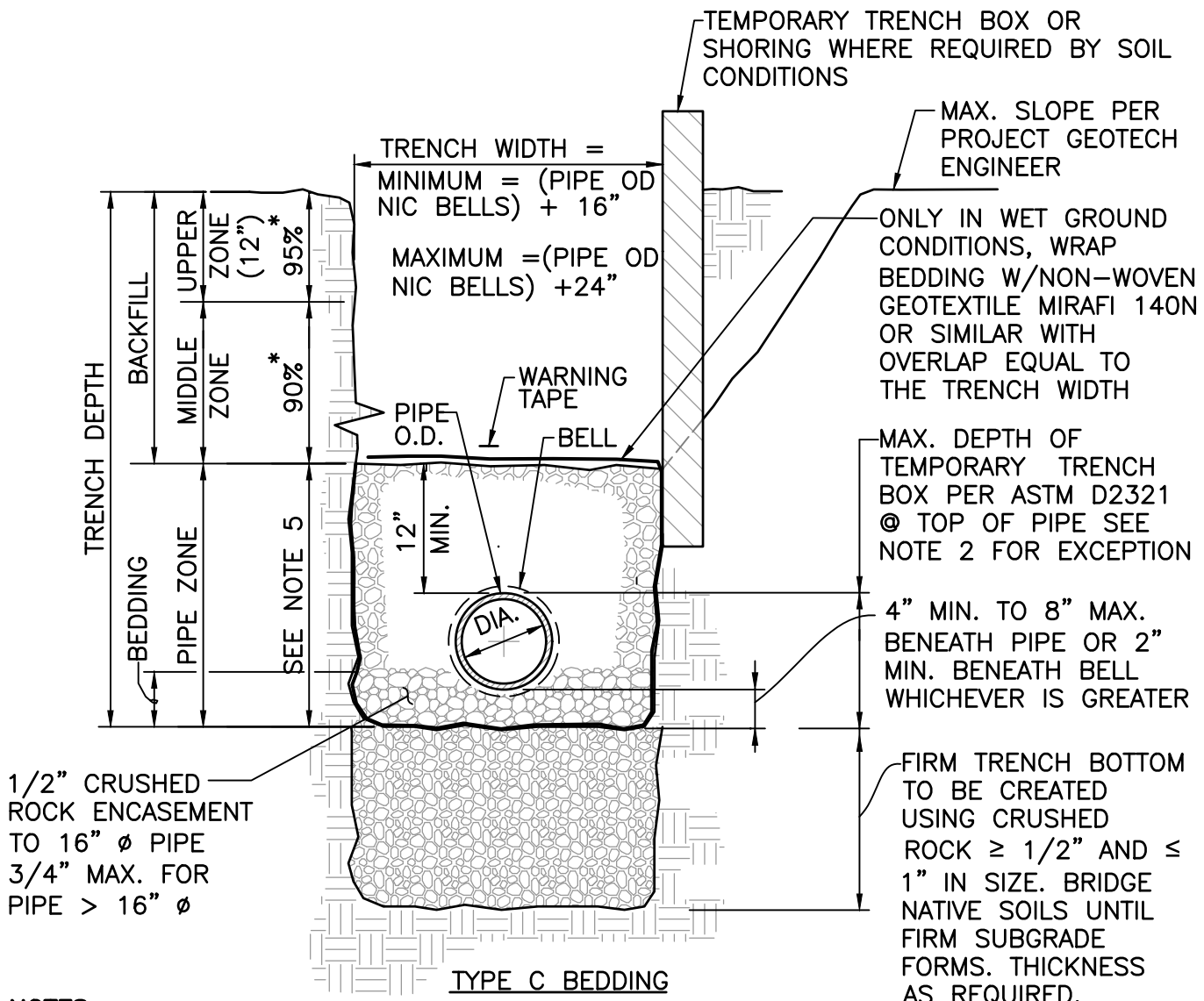
LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

CLEANOUT - SEWER FORCE MAIN

STD. DWG. NO.
S-10

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-11.DWG 11-15-21 11:43:49 LAYOUT: S-11




**TYPE C BEDDING
STANDARD INSTALLATION**

NOTES:

1. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE W/ ASTM D2321 (STD PRACTICE FOR UG INSTALLATION OF PIPE FOR SEWERS & OTHER GRAVITY-FLOW APPLICATIONS.)
2. OVEREXCAVATION MAY PROCEED WITH A TRENCH BOX TO BOTTOM OF TRENCH. THE TRENCH BOX SHALL BE RAISED AS FIRM SUBGRADE IS ESTABLISHED. AFTER FIRM SUBGRADE IS ESTABLISHED, THE TRENCH BOX SHALL BE SUSPENDED ABOVE TOP OF PIPE ELEVATION. THE PIPE BEDDING SHALL THEN BE SET INSIDE GEOTEXTILE FABRIC, THE PIPE INVERT SHALL BE SET, AND THE PIPE ZONE SHALL BE INSTALLED WITH COMPACTED CRUSHED ROCK AND ENCLOSED WITH GEOTEXTILE AS SHOWN.
3. (*) INDICATES MINIMUM RELATIVE COMPACTION.
4. UNDISTURBED NATIVE SOIL IS ANTICIPATED TO BE 85% RELATIVE COMPACTION AT TRENCH BOTTOM, WHICH IS SUITABLE AS "FIRM TRENCH BOTTOM". IF THE TRENCH BOTTOM IS LESS THAN 85% RELATIVE COMPACTION, CONTRACTOR SHALL PLACE CRUSHED ROCK AS INDICATED BY TRENCH DETAIL.
5. PROVIDE COMPACTION EFFORT SUITABLE TO UNIFORMLY LOAD THE ENTIRE CIRCUMFERENCE OF THE PIPE.
6. CONTRACTOR SHALL COMPLY WITH ALL CITY, STATE, AND FEDERAL REGULATIONS FOR SHORING AND EXCAVATION SAFETY.

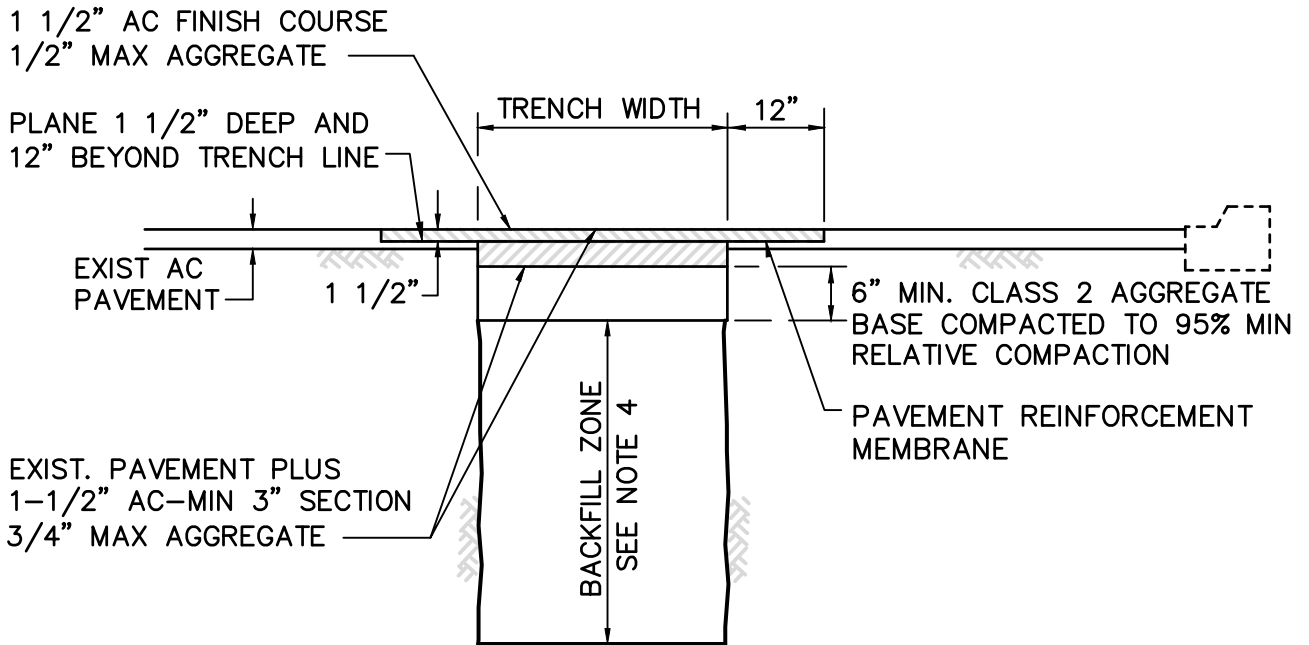
LEUCADIA WASTEWATER DISTRICT

APPROVED	3/27/2019
	
RCE	C33692 EXP 6/30/2020
DRAWN	CHKD. REV.
KWB	KLH NJF

**STANDARD PIPE ZONE
AND TRENCH BACKFILL**

STD. DWG. NO.
S-11

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-12.DWG 11-15-21 14:30:41 LAYOUT: S-12



NOTES:

1. TRENCH MAY BE SLOPED BACK ONLY IN AREAS APPROVED BY THE DISTRICT ENGINEER. PAVING IN PAVED AREAS SHALL BE REPLACED WITH AN EXTENDED "T-PATCH" TO SUIT. ALL OTHER DISTURBED OR DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND.
2. EXIST AC SHALL BE CUT AND REMOVED IN SUCH A MANNER SO AS NOT TO TEAR, BULGE OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL. ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO STREET CENTERLINE, WHEN PRACTICAL.
3. FINISH COURSE OF AC RESURFACING SHALL BE LAID DOWN USING A SELF PROPELLED SPREADER BOX, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. REFER TO AND COMPLY WITH ALL STANDARDS AS REQUIRED BY AUTHORITY HAVING JURISDICTION WITHIN STREET. CITY STANDARDS SHALL GOVERN ONLY IF REQUIREMENTS ARE IN CONFLICT.

LEUCADIA WASTEWATER DISTRICT

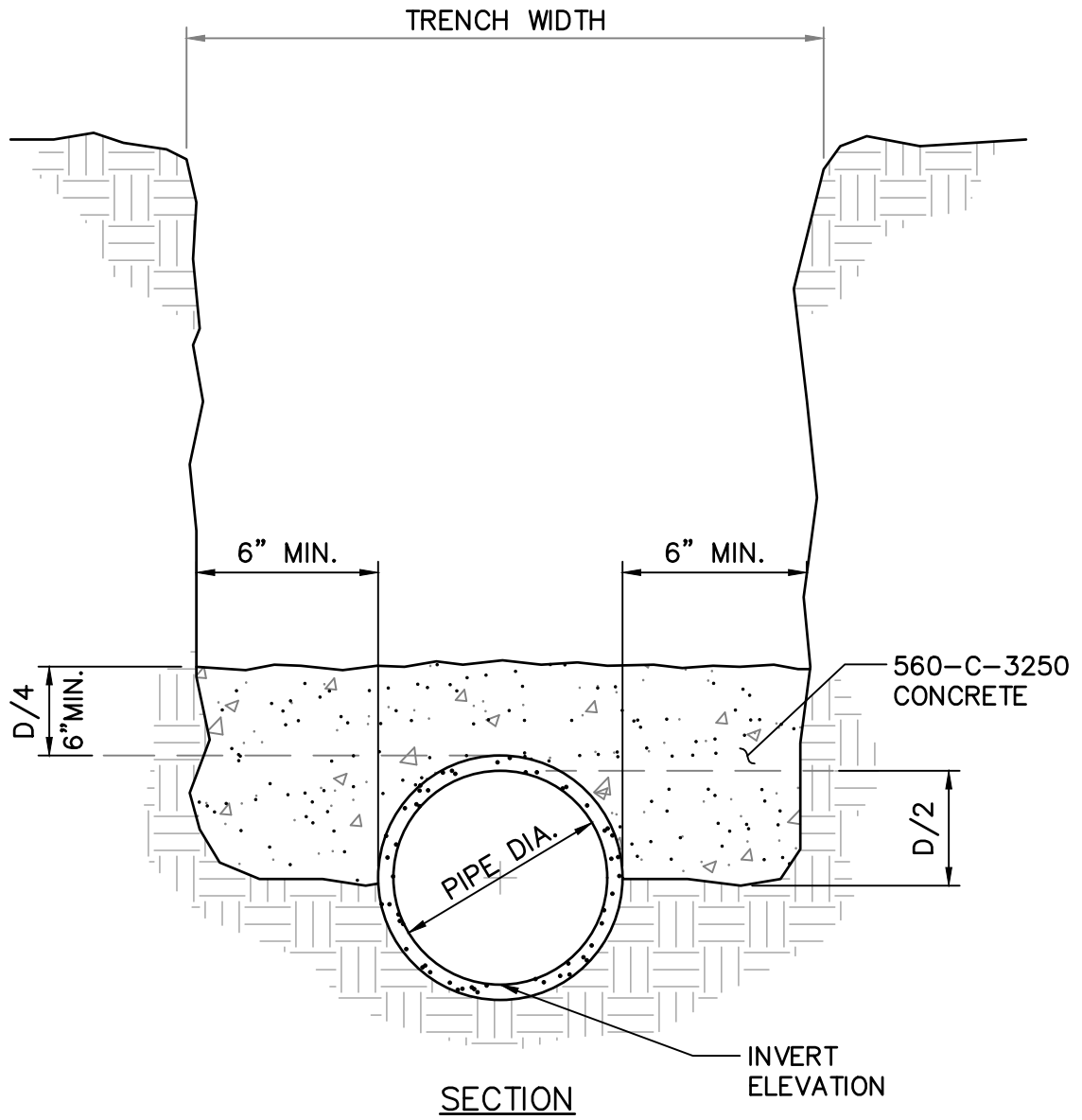
APPROVED 3/27/2019		
RCE C33692 EXP 6/30/2020		
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KWB	KLH	NJF

**STANDARD PIPE TRENCH DETAIL
IN EXISTING STREETS**

STD. DWG. NO.

S-12

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-13.DWG 11-15-21 14:32:49 LAYOUT: S-11



LEGEND ON PLANS

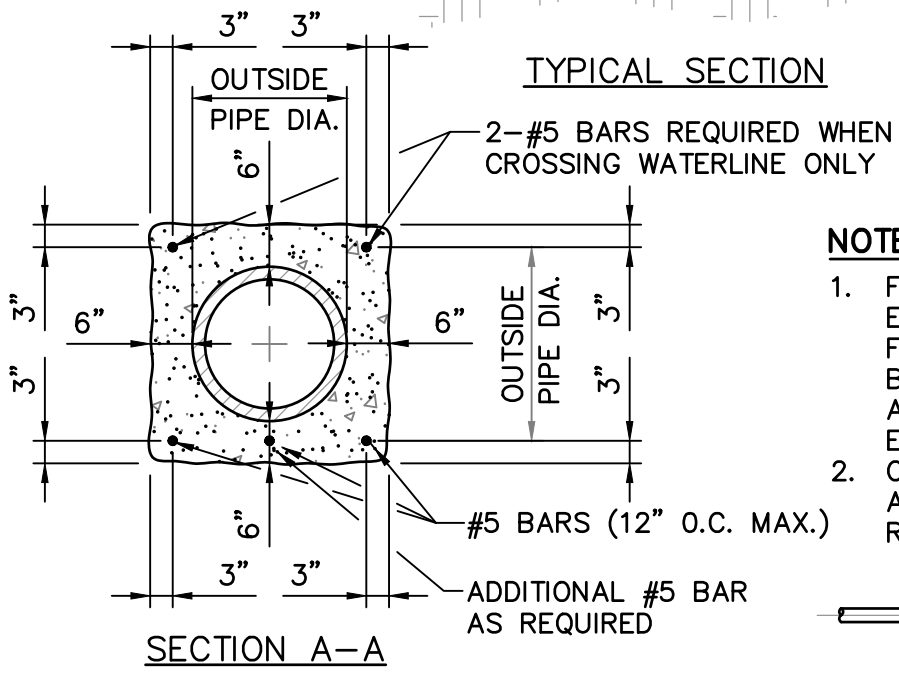
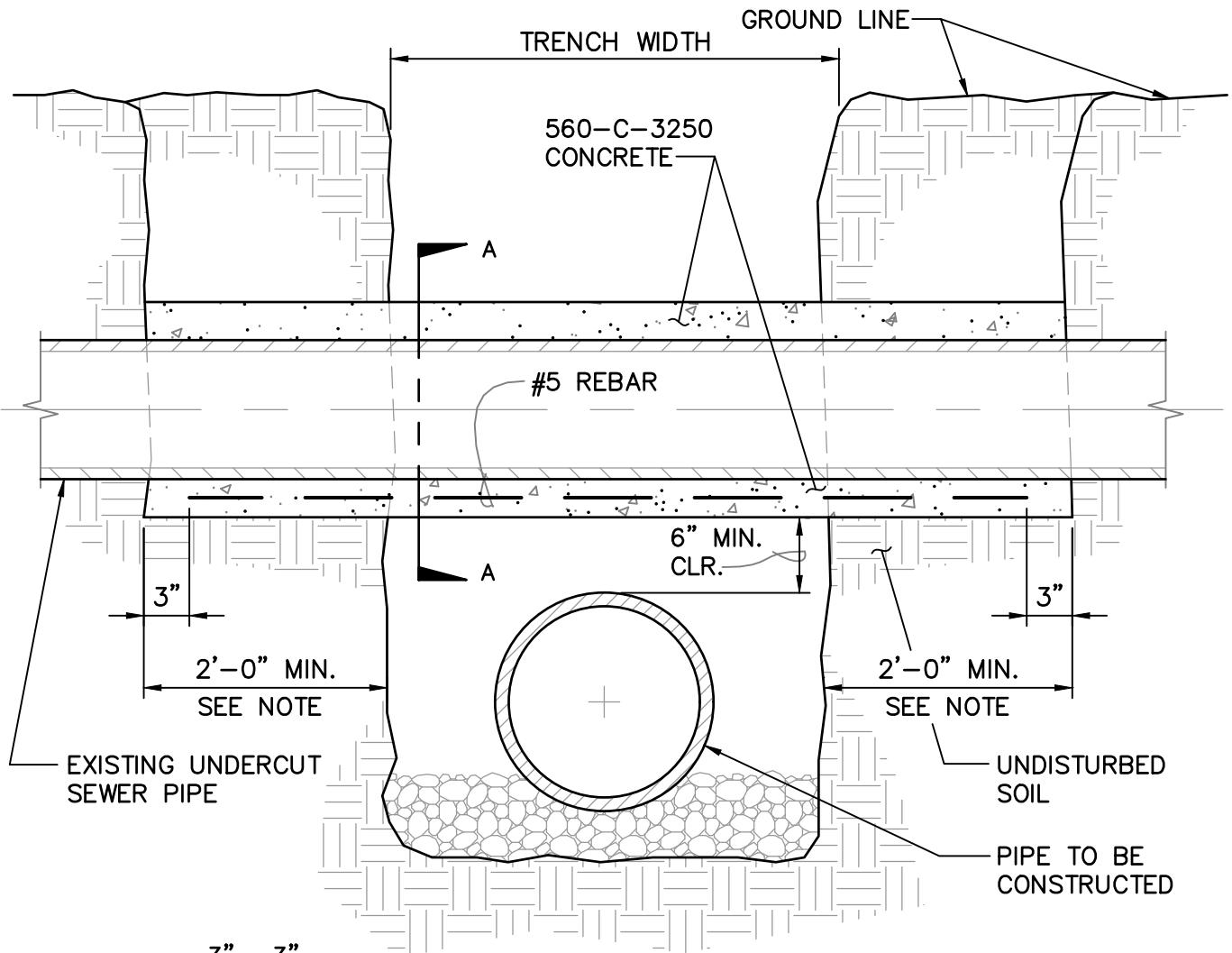
LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
<i>[Signature]</i>		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

CONCRETE CROWN PROTECTION
FOR EXISTING SEWER PIPE

STD. DWG. NO.
S-13

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-14.DWG 11-15-21 14:35:08 LAYOUT: S-12



- NOTES:**
- FOR WATER LINE CONSTRUCTION, ENCASEMENT SHALL EXTEND TO FIRST JOINT BEYOND 2 FEET AT BOTH SIDES OF TRENCH OR TO A DISTANCE OF 4 FEET, WHICHEVER IS LESS.
 - CCTV EXISTING SEWER BEFORE AND AFTER NEW CONSTRUCTION. REPAIR ALL DAMAGE.



LEGEND ON PLANS

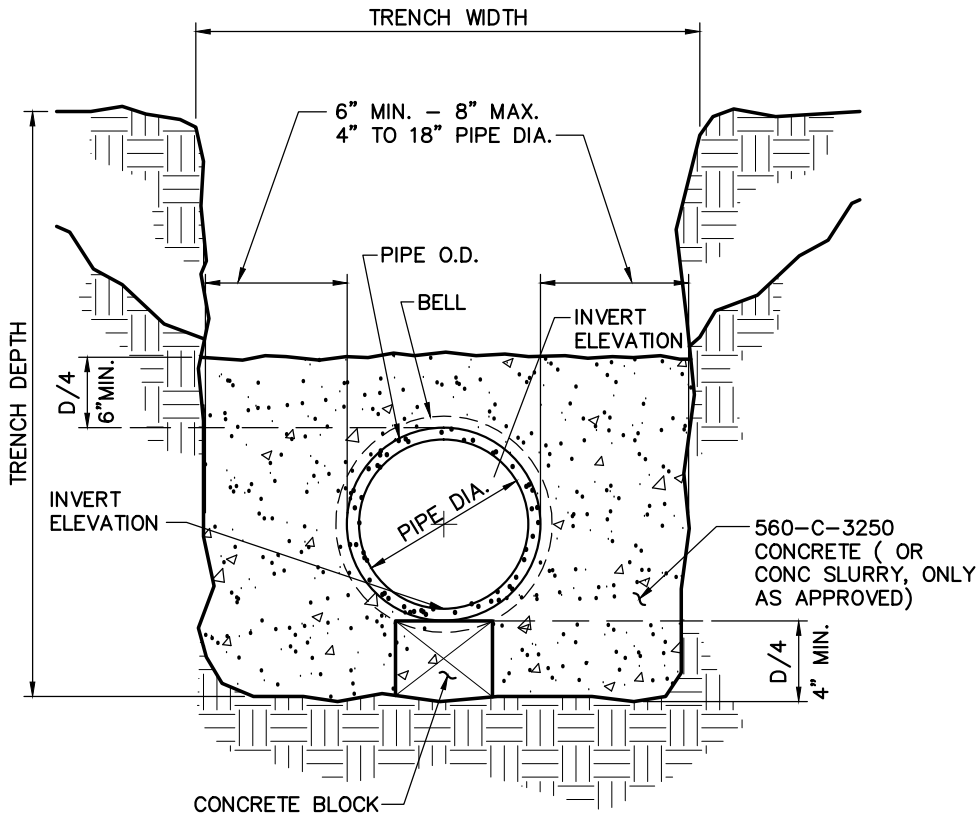
LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
<i>[Signature]</i>		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

CONCRETE SUPPORT
FOR UNDERCUT SEWER PIPE

STD. DWG. NO.
S-14

CONCRETE ENCASEMENT



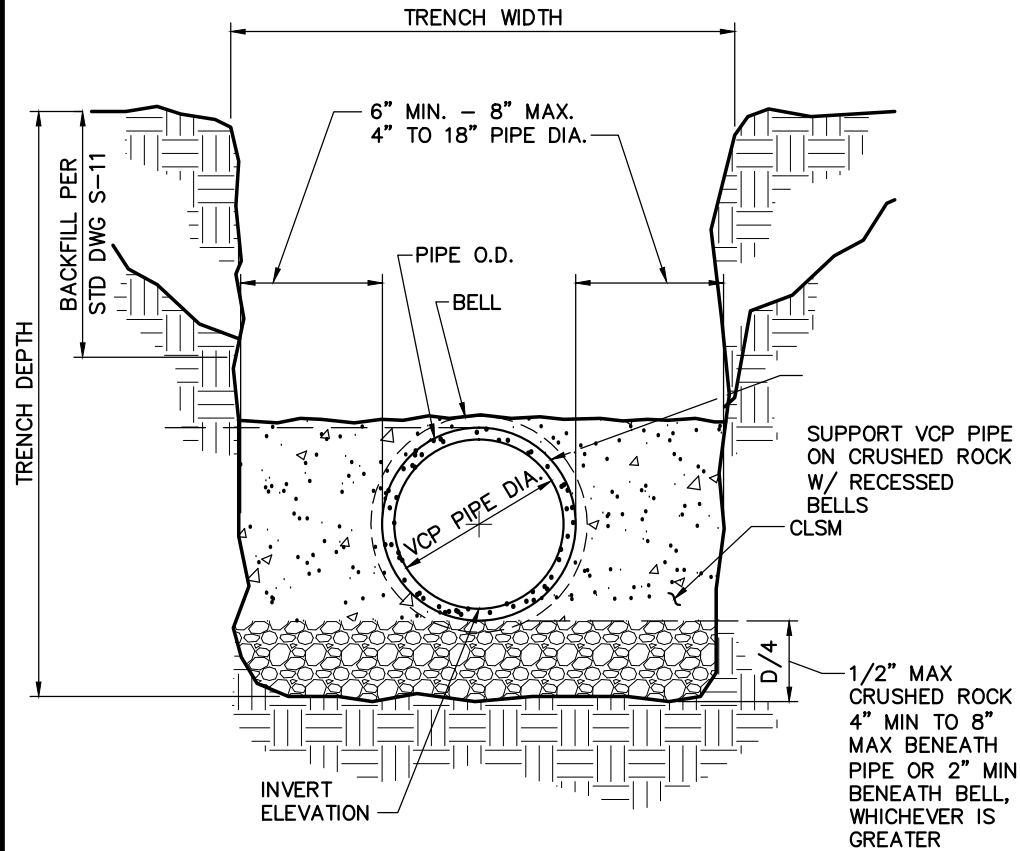
SECTION

NOTES:
 ENCASE PIPE TO NEAREST
 FLEXIBLE JOINT



LEGEND ON PLANS

VCP CLSM ENCASEMENT



SECTION

NOTES:

1. CONTROLLED LOW STRENGTH MATERIAL (CLSM) SHALL BE 300 PSI COMP. STRENGTH & SHALL BE PER NATIONAL CLAY PIPE INSTITUTE (NCPI) GUIDELINES FOR CLSM.
2. INSTALL PER ASTM C12-09 STD PRACTICE FOR INSTALLING VCP LINES.
3. INSTALL CLSM TO NEAREST FLEXIBLE JOINT.
4. CONC. ENCASEMENT OF VCP SHALL NOT BE ALLOWED UNLESS DIRECTED BY DISTRICT ENGINEER.



LEGEND ON PLANS

LEUCADIA WASTEWATER DISTRICT

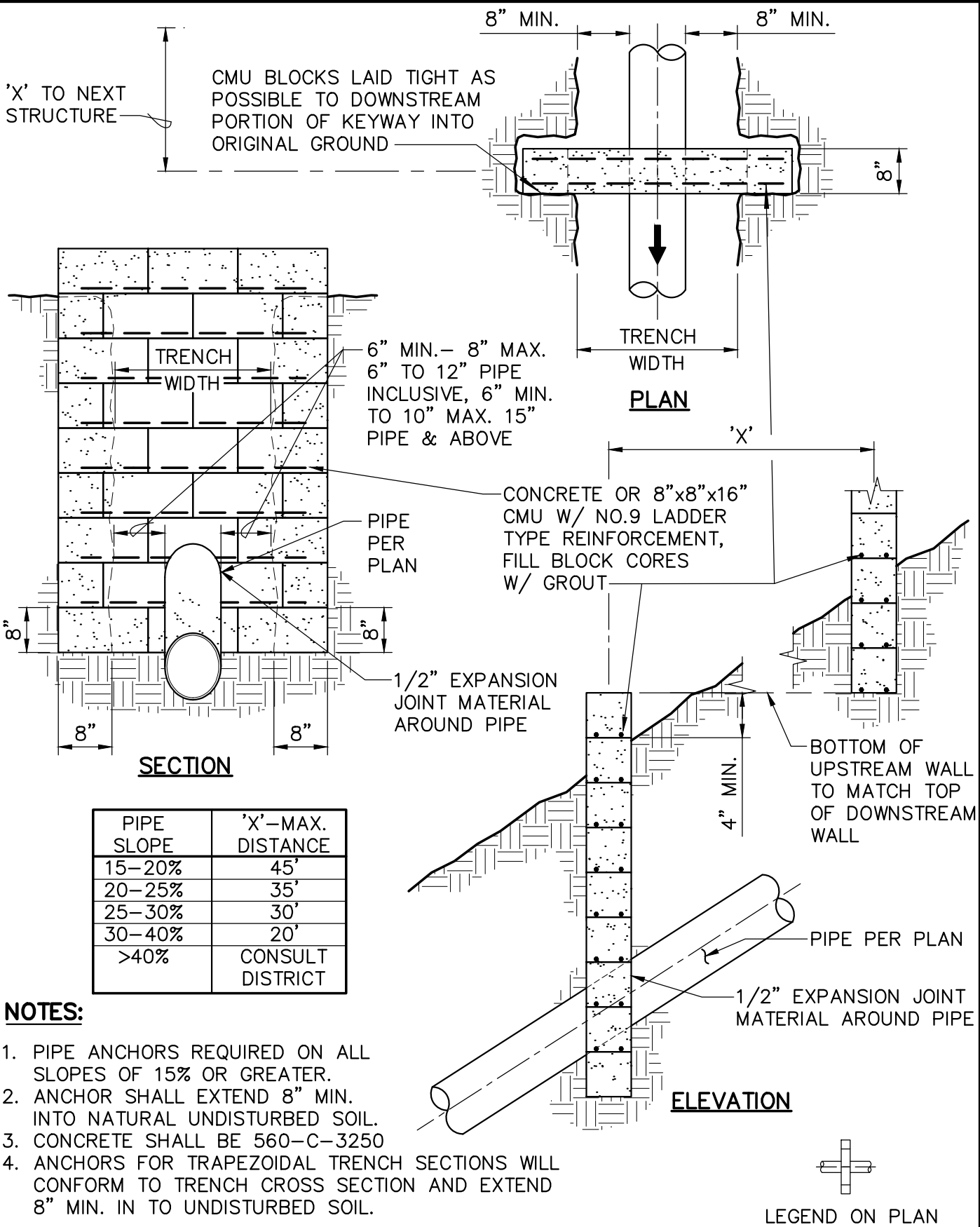
APPROVED 6/8/16		
<i>Stephen Obering</i>		
RCE CA#26514 EXP. 3/31/18		
DRAWN	CHKD.	REV.
KK	JM	CJD

CONCRETE ENCASEMENT & VCP CLSM ENCASEMENT

STD. DWG. NO.

S-15

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NOTES:

1. PIPE ANCHORS REQUIRED ON ALL SLOPES OF 15% OR GREATER.
2. ANCHOR SHALL EXTEND 8" MIN. INTO NATURAL UNDISTURBED SOIL.
3. CONCRETE SHALL BE 560-C-3250
4. ANCHORS FOR TRAPEZOIDAL TRENCH SECTIONS WILL CONFORM TO TRENCH CROSS SECTION AND EXTEND 8" MIN. IN TO UNDISTURBED SOIL.

LEUCADIA WASTEWATER DISTRICT

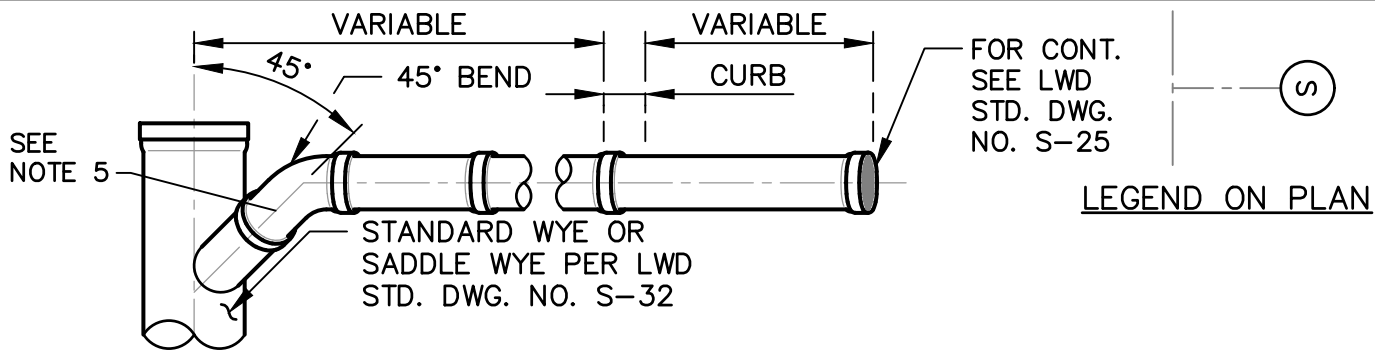
APPROVED 6/8/16
Stephen Osorio
 RCE CA#26514 EXP. 3/31/18
 DRAWN CHKD. REV.
 KK BT CJD

STANDARD CUTOFF WALL (ANCHOR)

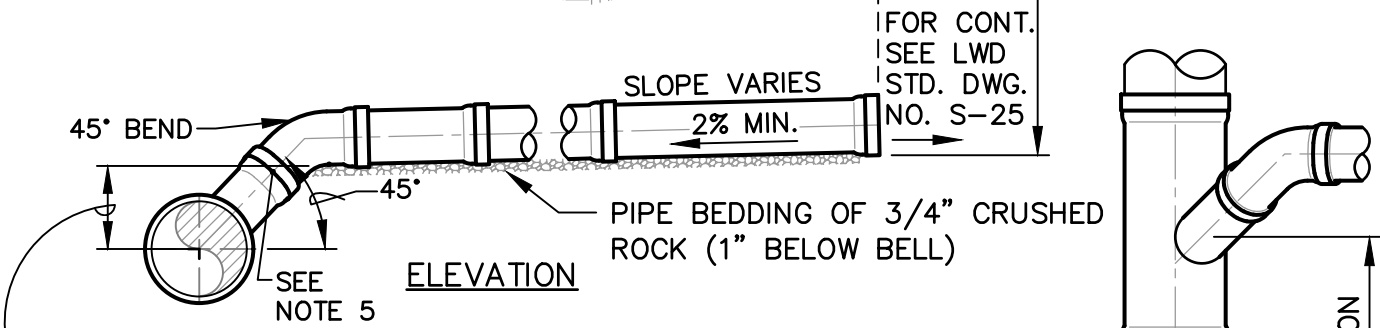
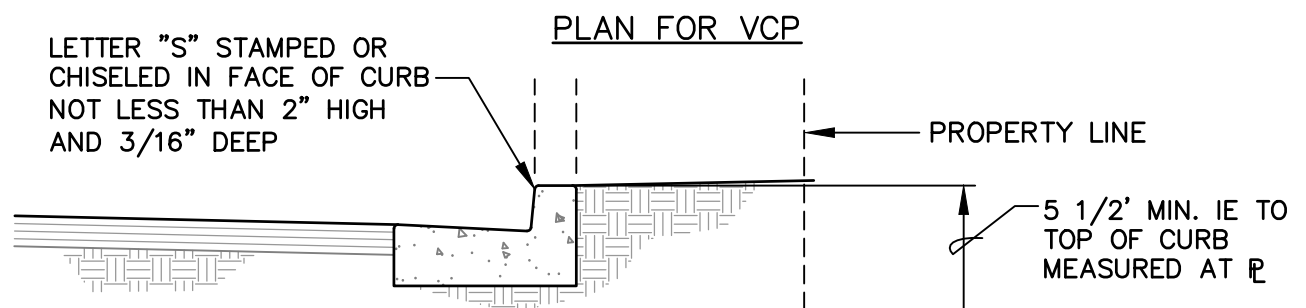
STD. DWG. NO.
S-16

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LEGEND ON PLAN

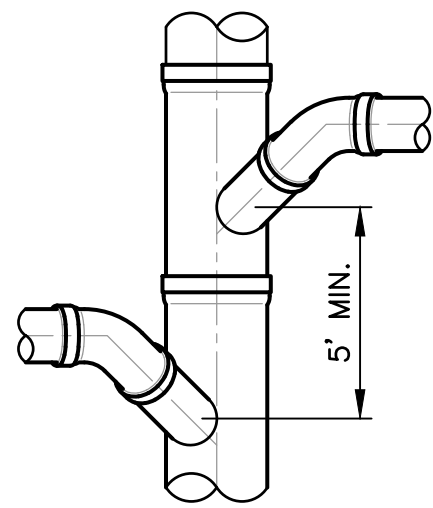


DROP TO MAIN VARIES W/SIZE (SEE LWD STD. DWG. NO. S-24)

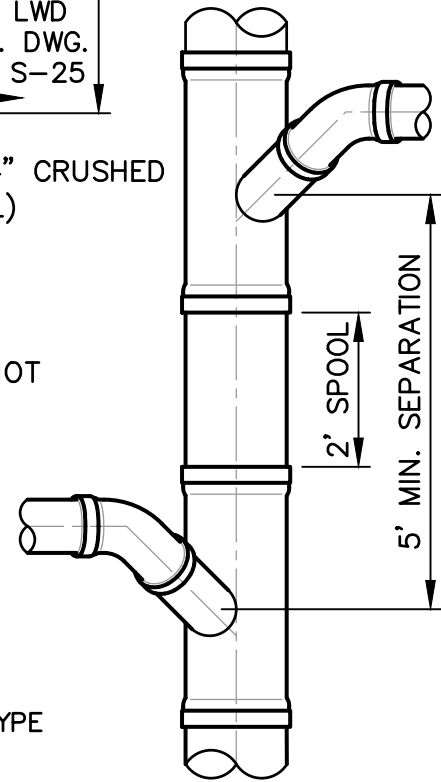
DETAIL SHOWING THE MANNER OF CONNECTING OPPOSITE LATERALS TO A SEWER MAIN. TWO CONNECTIONS SHALL NOT BE MADE IN THE SAME LENGTH OF PIPE.

NOTES:

1. IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE.
2. SEWER LATERALS SHALL HAVE A MIN. SLOPE OF 2%.
3. ALL JOINTS ON SEWER LATERAL PIPE SHALL BE COMPRESSION TYPE OR APPROVED SOLVENT WELD.
4. LATERAL SHALL EXTEND TO PROPERTY LINE UNLESS OTHERWISE SHOWN ON PLANS.
5. FOR THE CASE WHEN THE "DROP TO MAIN" IS GREATER THAN THE MIN. REQ'D PER LWD STD. DWG. NO. S-24 AND LESS THAN THAT REQ'D BY LWD STD. DWG. NO. S-18, A PIPE SPOOL MAY BE ADDED TO ALLOW RISE AND TRANSITION TO A MIN. 2% SLOPE TO MAIN.



PLAN FOR VCP



PLAN FOR PVC

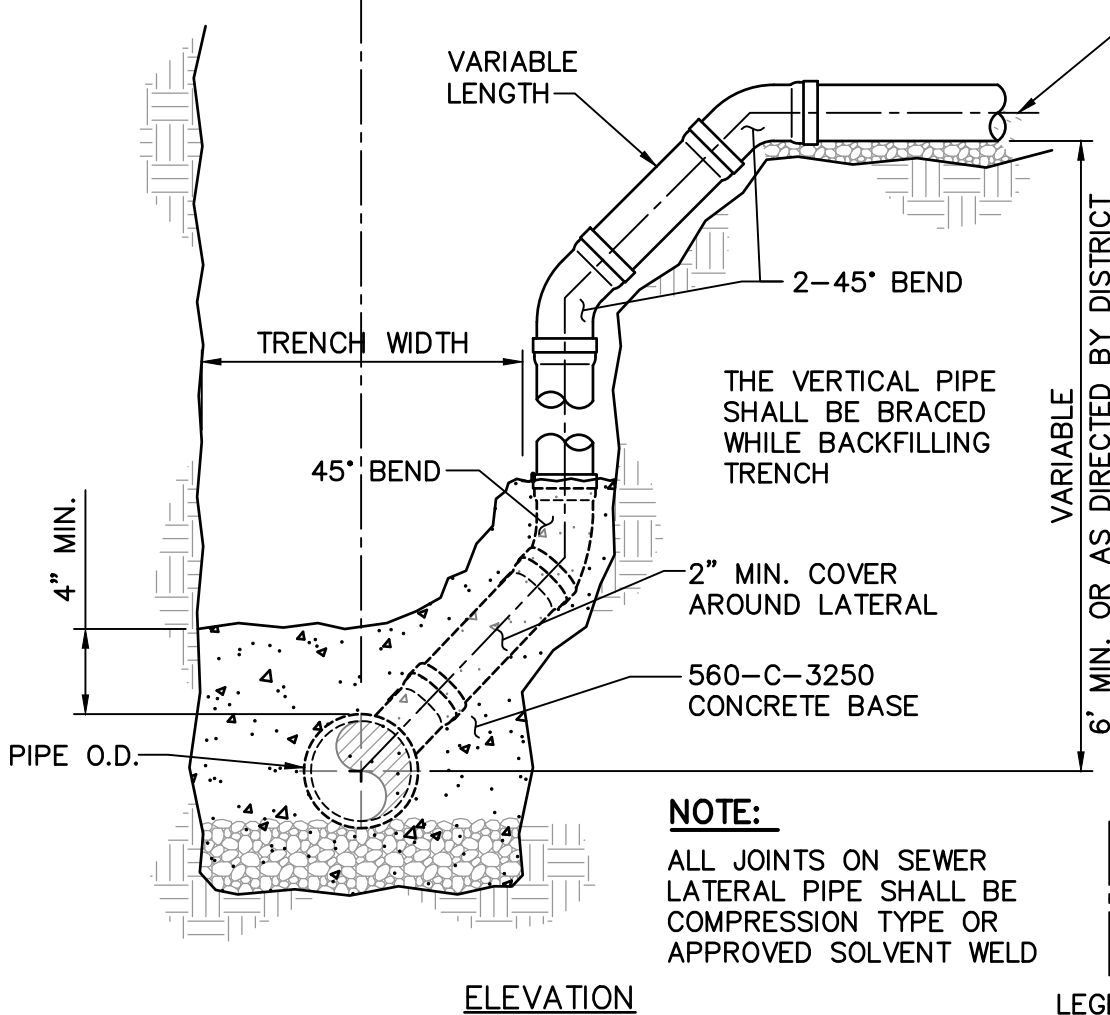
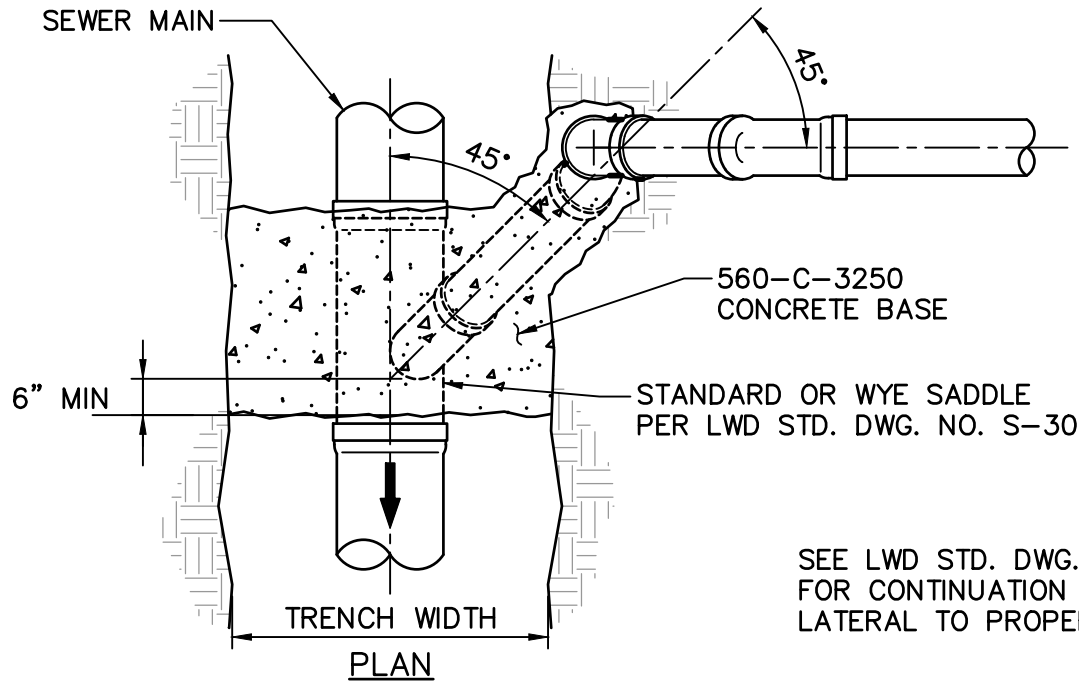
LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

HOUSE CONNECTION
(SEWER LATERAL)

STD. DWG. NO.
S-17

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\2ND DRAFT\STANDARD DRAWINGS\LWD_S-18.DWG 01-12-22 17:05:19 LAYOUT: S-18



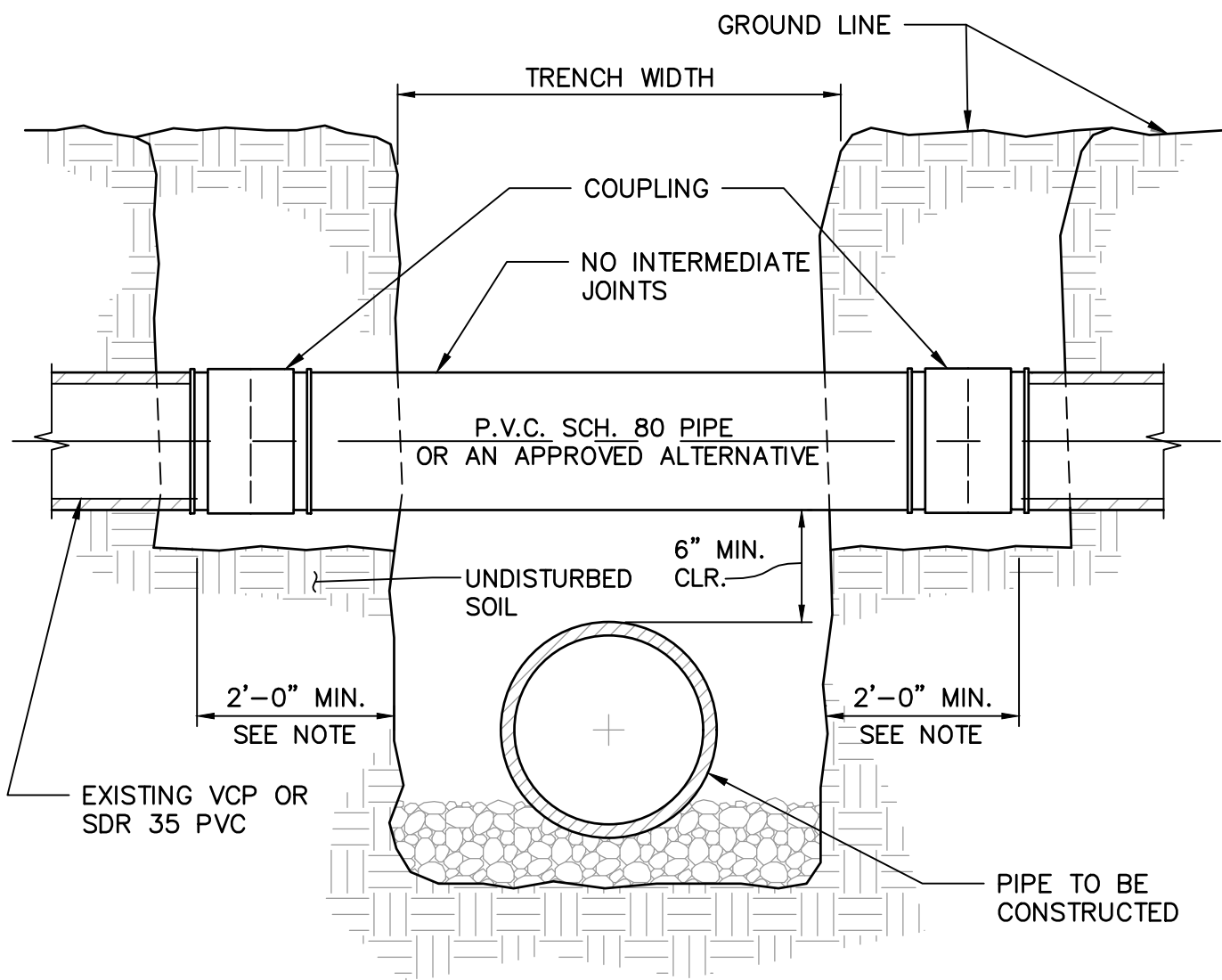
LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022		
RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

DEEP CUT HOUSE CONNECTION
(SEWER LATERAL)

STD. DWG. NO.
S-18

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-19.DWG 11-15-21 15:03:30 LAYOUT: S-19




TYPICAL SECTION

NOTES:

1. SEWER REPAIR SHALL EXTEND TO FIRST JOINT BEYOND 2 FEET AT BOTH SIDES OF TRENCH OR TO A DISTANCE OF 4 FEET, WHICHEVER IS LESS.
2. CALDER COUPLINGS NOT ALLOWED.
3. SUBMIT FERNCO, DRESSER, FORD, OR EQUAL COUPLINGS W/ 316SS HARDWARE FOR REVIEW & APPROVAL. COUPLING SHALL BE PROVIDED WITH EPOXY LINING AND COATING AND SHALL BE INSTALLED WITH WAX TAPE WRAP.

LEUCADIA WASTEWATER DISTRICT

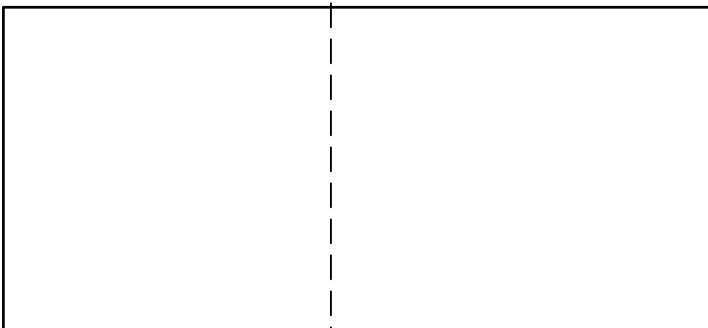
APPROVED 3/27/2019		
		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

UNDERCUT SEWER REPAIR

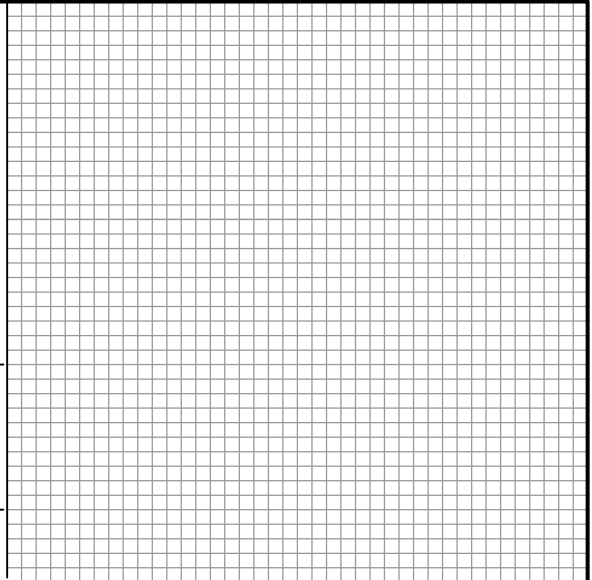
STD. DWG. NO.
S-19



VICINITY MAP
NOT TO SCALE



LOCATION/INDEX MAP
SCALE: 1"=200'



2.5'
(TYP)

0.25"

LEGEND (ALSO SEE LWD. STD. DWG. NO. S-1)

DESCRIPTION	LWD. STD. DWG. NO.	SYMBOL	QUANTITY
8" SEWER MAIN	S-11		LF
SEWER MANHOLE	S-3, S-4, S-5		EA
SEWER LATERAL	S-17, S-18, S-25, S-32		EA
CONCRETE ENCASEMENT	S-15		LF
CUT OFF WALL	S-16		EA

SHEET INDEX

DIMENSIONS PER CITY REQUIREMENTS

SEWER NOTES

CURRENTLY APPROVED NOTES FROM LWD STD. DWG. NOS. GN-1, 2, 3, 4, 5, & 6 SHALL BE LISTED ON IMPROVEMENT PLANS.

DIMENSIONS PER CITY REQUIREMENTS

NOTE:
FINAL SUBMITTALS WILL INCLUDE:
1. SIGNED MYLARs ON 24"x 36" MEDIA
2. ELECTRONIC CAD DRAWINGS, INCLUDING PLOT CONFIGURATION FILES AND FONTS.

BENCHMARK
(TO BE APPROVED BY DISTRICT)

LEUCADIA WASTEWATER DISTRICT			
PUBLIC SEWER SYSTEM APPROVAL			
APPROVED BY: LWD DISTRICT ENGINEER			
DEXTER S. WILSON, PE	C33692		
NAME	RCE	DATE	
DEXTER WILSON ENGINEERING, INC.			
FIRM		EXP. DATE	

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

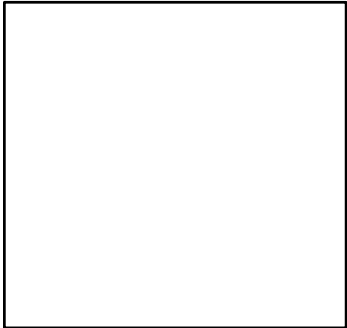
SHEET	CITY TITLEBLOCK	SHEETS
	ENGINEERING DEPARTMENT	
APPROVED:		
CITY ENGINEER	R.C.E.	EXP. DATE
DWN BY:		PROJECT NO.
CHKD BY:		DRAWING NO.
REV'D BY:		

LEUCADIA WASTEWATER DISTRICT

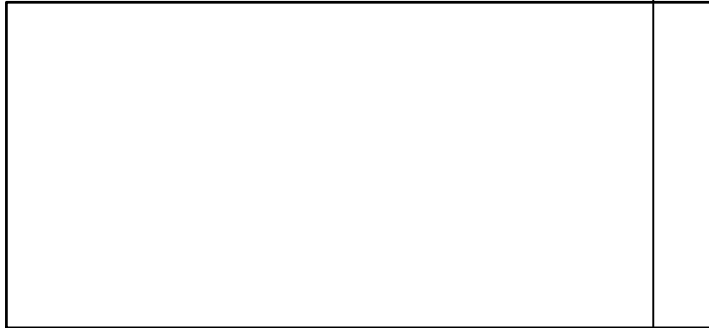
APPROVED <u>3/27/2019</u>		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	N.JF

CITY TITLE BLOCK
TO BE USED FOR DISTRICT CIP IMPROVEMENTS

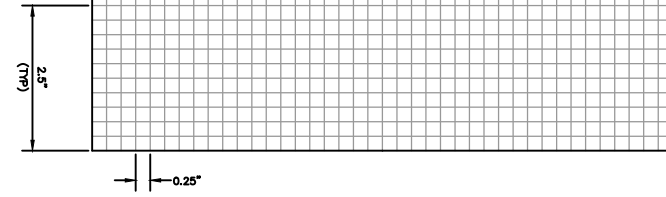
STD. DWG. NO.
S-20



VICINITY MAP
NOT TO SCALE



LOCATION/INDEX MAP
SCALE: 1"=200'



SEWER NOTES

CURRENTLY APPROVED SEWER NOTES FROM LWD STD. DWG. NOS. GN-1, 2, 3, 4, 5, & 6 SHALL BE LISTED ON IMPROVEMENT PLANS.

LEGEND (ALSO SEE LWD. STD. DWG. NO. S-1)

DESCRIPTION	LWD. STD. DWG. NO.	SYMBOL	QUANTITY
8" SEWER MAIN	S-11		LF
SEWER MANHOLE	S-3, S-4, S-5	M.H. NO.	EA
SEWER LATERAL	S-17, S-18, S-25, S-32		EA
CONCRETE ENCASEMENT	S-15		LF
CUT OFF WALL	S-16		EA

SHEET INDEX

21.0

32.2

NOTE:
FINAL SUBMITTALS WILL INCLUDE:
1. SIGNED MYLARs ON 24"x 36" MEDIA
2. ELECTRONIC CAD DRAWINGS, INCLUDING PLOT CONFIGURATION FILES AND FONTS.

% SUBMITTAL

ENGINEER LOGO

ENGINEER STAMP

REVISIONS				REMARKS
NO.	BY	DATE		

DESIGNED: _____
DRAWN: _____
CHECKED: _____

LEUCADIA WASTEWATER DISTRICT

1960 LA COSTA AVE. CARLSBAD, CA 92009
PHONE: (760) 753-0155
FAX: (760) 753-3094

TITLE NO. 1
TITLE NO. 2

DATE: _____
DWG: _____ SHEET _____ OF _____
CAD REF. NO. _____

LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019

RCE C33692 EXP 6/30/2020

DRAWN	CHKD.	REV.
KWB	KLH	NJF

LWD TITLE BLOCK

TO BE USED FOR DISTRICT CIP IMPROVEMENTS

STD. DWG. NO.

S-21

Manhole ID Number			UPS MH Coordinates ³		Pipe length (feet)	Pipe dia. (IN)	Pipe material	Slope (%)	Location of Manhole (Address)				MH Rim El. (feet)		MH Invert El. (feet)		MH Depth (ft)		Manhole Type (ANG,STD,DE,DRP,SMT)		Manhole Lining		Notes		
UPS	TO	DWN	x	y					Upstream		Downstream		UPS	DWN	UPS	DWN	UPS	DWN	UPS	DWN	UPS	DWN		UPS	DWN
									Address	Description	Address	Description													
08-9863	TO	08-9860			139.43	12	PVC	0.0939	-	parking lot	-	easement	171	142	143	130.6	27.5	11.36	STD	ANG			Existing downstream MH to be rechanneled.		

NOTES:

1. EXISTING DOWNSTREAM MH TO BE RECHANNELED.

ABBREVIATIONS:

- UPS – UPSTREAM
- DWN – DOWNSTREAM
- DIA – DIAMETER
- MH – MANHOLE
- EI – ELEVATION
- ANG – ANGLE
- STD – STANDARD
- DE – DEADEND
- DRP – DROP
- SMT – SUMMIT

NOTES:

1. TABLE TO BE INCLUDED ON EACH SET OF PLANS.
2. ENGINEER TO SUBMIT EXCEL VERSION OF TABLE ONCE THE PLANS HAVE BEEN APPROVED.
3. USE NAD 83 COORDINATE SYSTEM.

NEW MANHOLE LINING TYPE

ABBREVIATION:

- IPVC – INTEGRAL PVC
- EPY – EPOXY

EXISTING MANHOLE LINING TYPE

ABBREVIATIONS:

- PU – POLYURETHANE
- EPX – EPOXY
- IPVC – INTEGRAL PVC
- SPVC – SEGMENTED PVC
- EM-PVC – EPOXY MASTIC & FLEXIBLE PVC
- CIP – CIP EPOXY FG COMPOSITE

LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019



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KWB	KLH	NJF

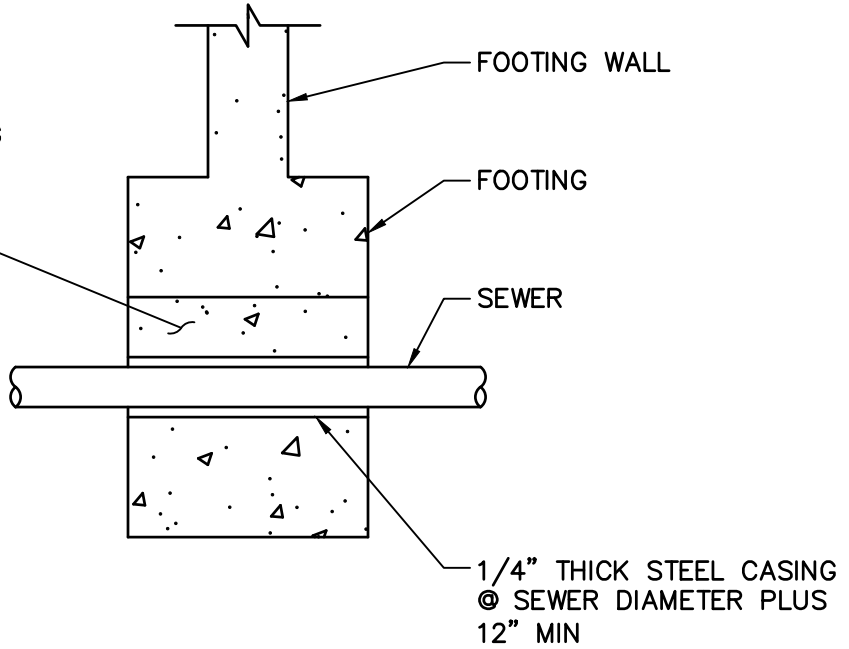
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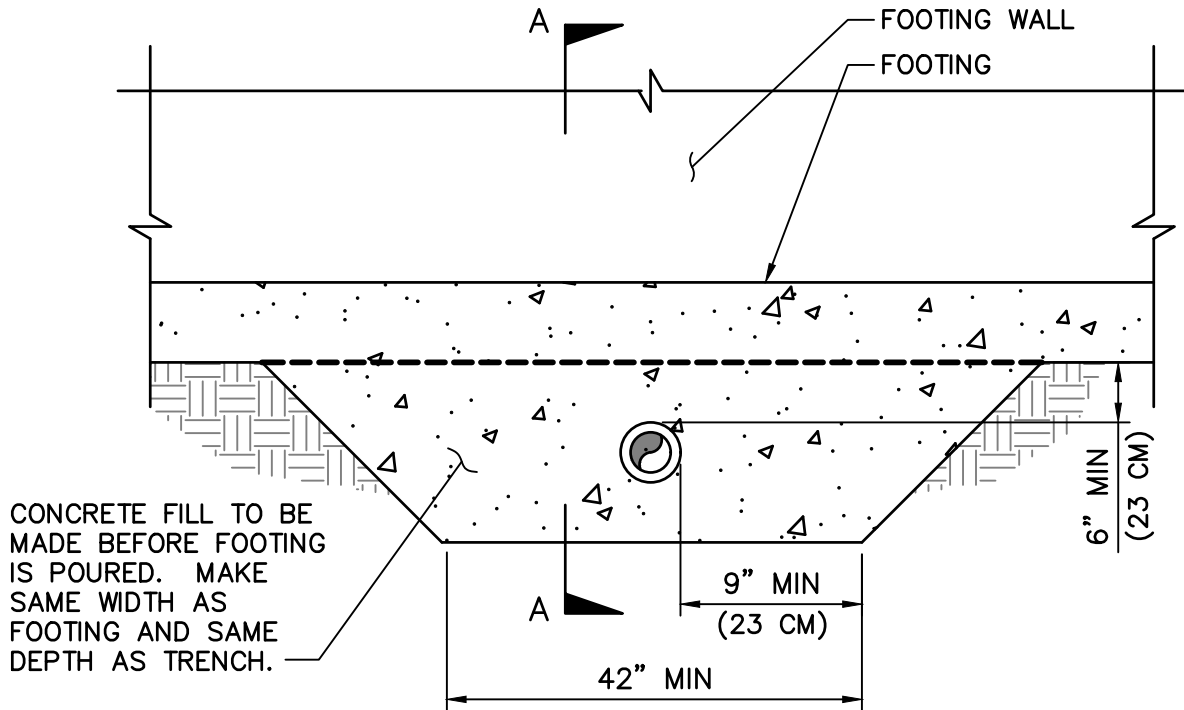
S-22

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CONCRETE FILL TO BE
 MADE BEFORE FOOTING
 IS Poured. MAKE
 SAME WIDTH AS
 FOOTING AND SAME
 DEPTH AS TRENCH.



SECTION A-A



ELEVATION

LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019

RCE C33692 EXP 6/30/2020

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PIPE DETAIL AT WALL FOOTING

STD. DWG. NO.

S-23

TABLE I – DROP TO MAIN

SEWER SIZE	8"	10"	12"	15"	18"	21"	24"
DROP TO MAIN	1.2'	1.3'	1.4'	1.8'	2.0'	2.2'	2.4'

SEWER LATERAL TABLES

A SEWER LATERAL TABLE SHALL BE INCLUDED IN THE IMPROVEMENT PLANS FOR ALL LATERALS. THE LATERAL TABLE SHALL, AT A MINIMUM, INCLUDE:

1. SEQUENCE NUMBER
2. LOT NUMBER
3. SEWER STATION
4. INVERT AT MAIN (INVERT ELEVATION OF COLLECTION SEWER AT LATERAL CONNECTION)
5. LENGTH (DISTANCE FROM MAIN CENTERLINE TO PROPERTY LINE) LESS 2' (THE APPROXIMATE INSTALLED LENGTH OF THE WYE AND 1/8TH BEND)
6. DROP TO MAIN (SEE TABLE I, ABOVE)
7. INVERT ELEVATION OF LATERAL AT PROPERTY LINE
8. SLOPE IN % = $\frac{((\text{ITEM 7} - (\text{ITEM 4} + \text{ITEM 6})) * 100)}{(\text{ITEM 5} - 2.0')}$, WHICH SHOULD BE GREATER THAN 2% FOR A 4-INCH DIAMETER LATERAL OR 1% FOR A 6-INCH DIAMETER LATERAL
9. GROUND ELEVATION AT PROPERTY LINE
10. DEPTH AT PROPERTY LINE
11. PAD ELEVATION OF BUILDING BEING SERVED
12. RIM ELEVATION OF NEXT UPSTREAM MH
13. BACKWATER VALVE REQUIRED ON LATERAL – YES OR NO – REQUIRED WHEN UPSTREAM MH RIM ELEVATION IS HIGHER THAN HOUSE PAD
14. REMARKS (SUCH AS "DEEP CUT LATERAL")

TABLE SHALL BE PRESENTED IN THE FORM SHOWN BELOW:

SEWER LATERAL TABLE

1	2	3	4	5	6	7	8	9	10	11	12	13	14
SEQ. NO.	LOT NO.	STREET STATION OF LATERAL AT MAIN	INVERT AT MAIN IE	LENGTH OF LATERAL	DROP TO MAIN	LATERAL ELEV. AT PL IE	LATERAL SLOPE %	GROUND ELEV. AT PL	DEPTH BELOW PL PL TO IE	PAD ELEV. FT.	UPSTREAM MH RIM ELEV.	BACKWATER VALVE REQ'D	REMARKS

LEUCADIA WASTEWATER DISTRICT

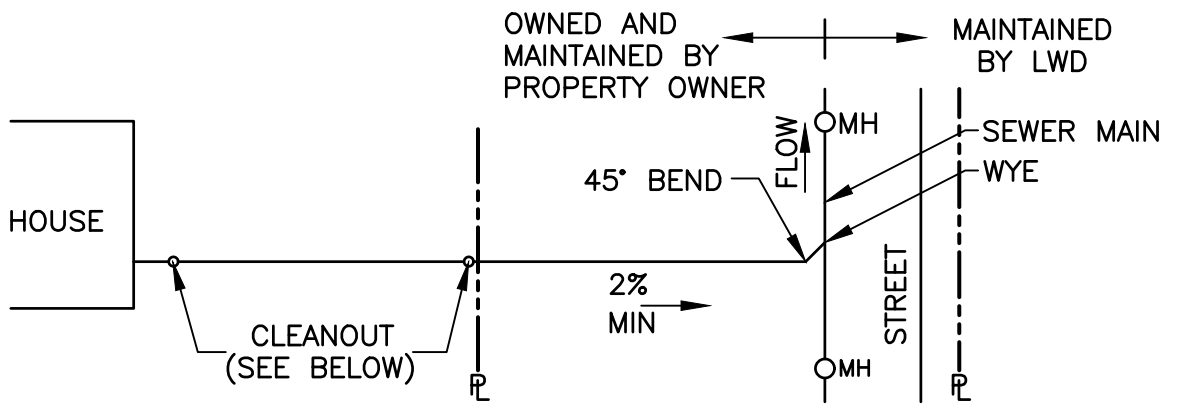
APPROVED 6/8/16
Stephen Osoring
 RCE CA#26514 EXP. 3/31/18
 DRAWN CHKD. REV.
 KK BT CJD

SEWER LATERAL TABLES

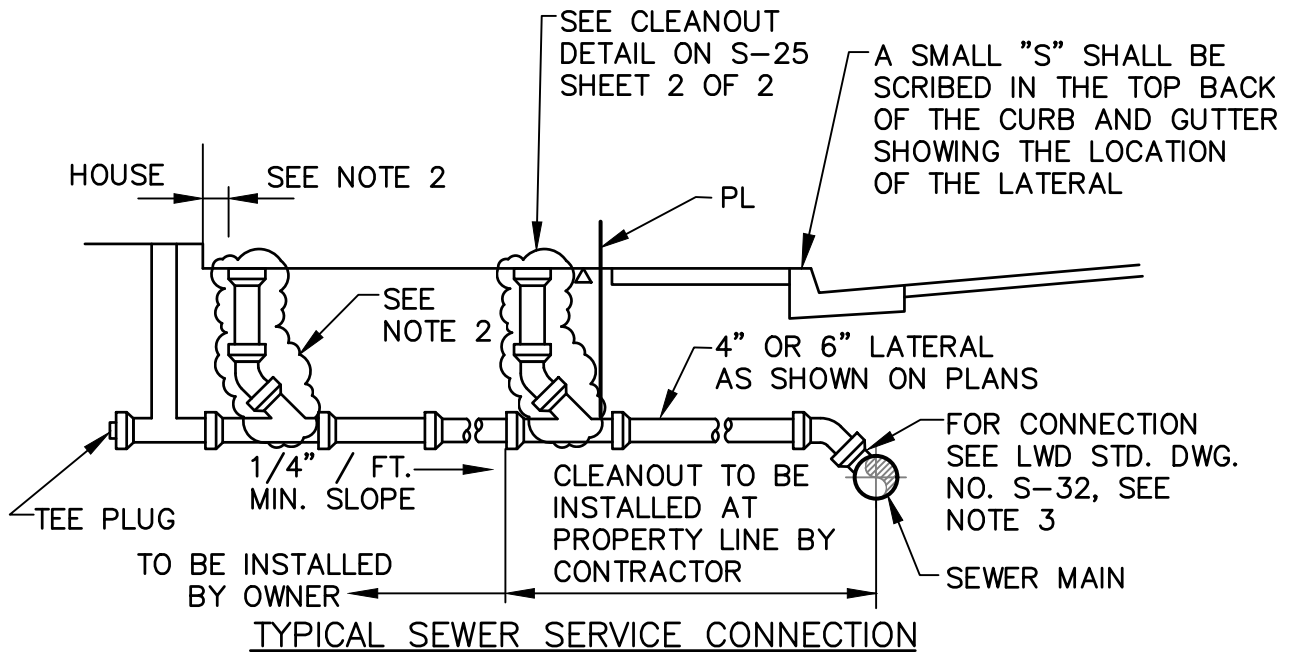
STD. DWG. NO.
S-24

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CONNECTION PLAN VIEW
 NO SCALE



NOTES:

1. CLEANOUT TO BE INSTALLED AT PROPERTY LINE BY CONTRACTOR FOR CCTV.
2. AS REQUIRED BY BUILDING PERMIT, UNIFORM PLUMBING CODE, CITY CODES, OR CITY REQUIREMENTS.
3. SADDLES AND WYES ARE CONSIDERED PRIVATE FACILITIES.
4. WHENEVER THE BUILDING PAD ELEVATION IS LOWER THAN THE NEXT UPSTREAM MH RIM ELEVATION, THEN THE PRIVATE SEWER LATERAL SHALL INCLUDE A UPC APPROVED BACKWATER VALVE PER UPC SECT. 710 ONLY FOR THOSE LOWER FIXTURES. DRAINING FROM HIGHER ELEVATION FIXTURES SHALL NOT PASS THROUGH BACKWATER VALVE.
5. CLEANOUT RISER AND WYE TRANSITION MUST BE PLUGGED AT ALL TIMES TO ELIMINATE THE POSSIBILITY OF INFLOW AND/OR DEBRIS DURING CONSTRUCTION

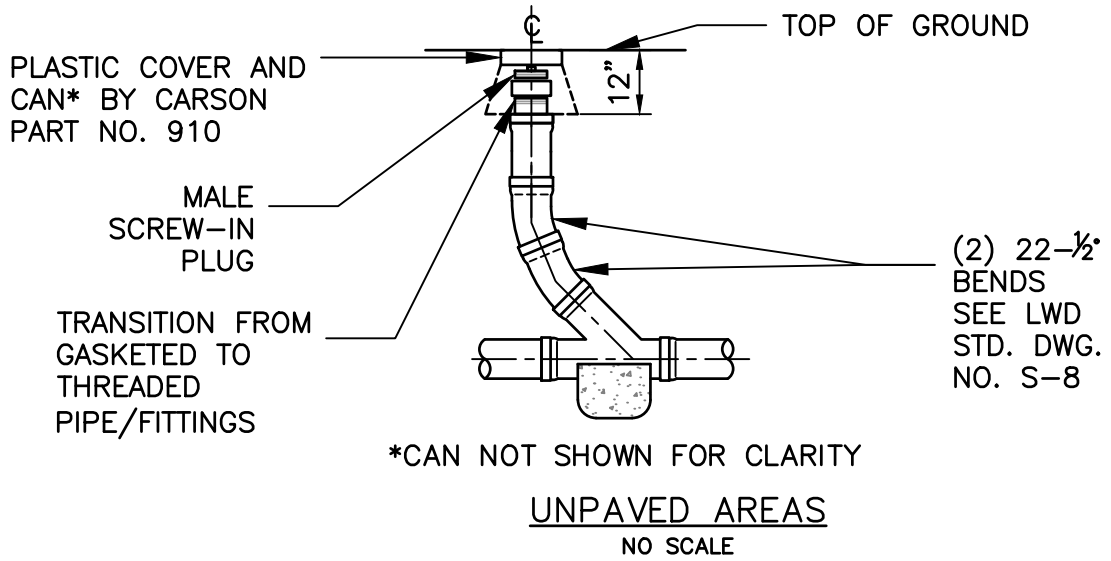
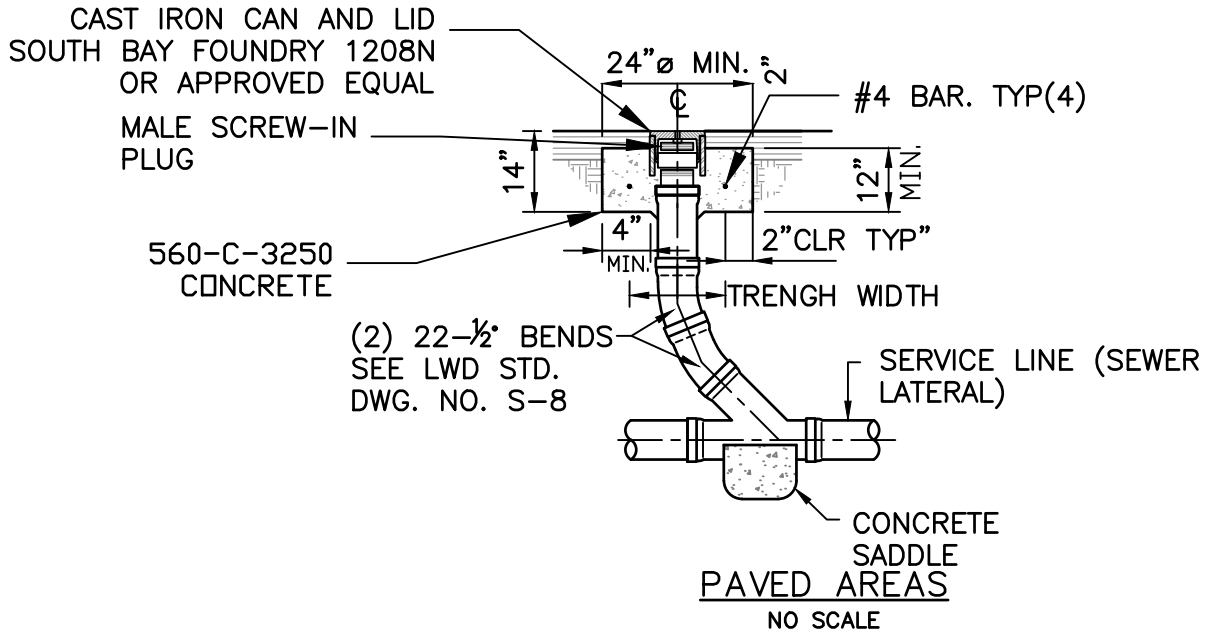
LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
<i>[Signature]</i>		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

TYPICAL SEWER LATERAL

STD. DWG. NO.
S-25
1 OF 2

\\ARTIC\ENG\103500\STANDARD SPEC\2019 REVISION\STANDARD DRAWINGS\LWD_S-25.DWG 03-12-19 15:34:08 LAYOUT: S-25 -2



LEUCADIA WASTEWATER DISTRICT

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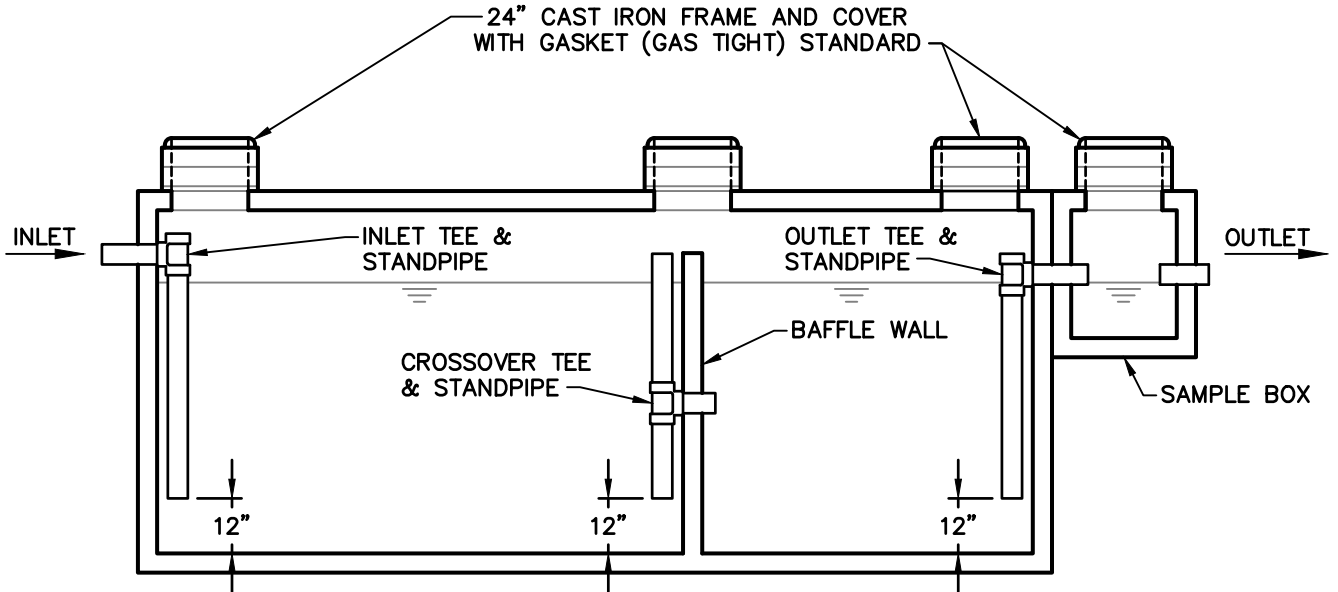
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KWB	KLH	NJF

TYPICAL SEWER LATERAL

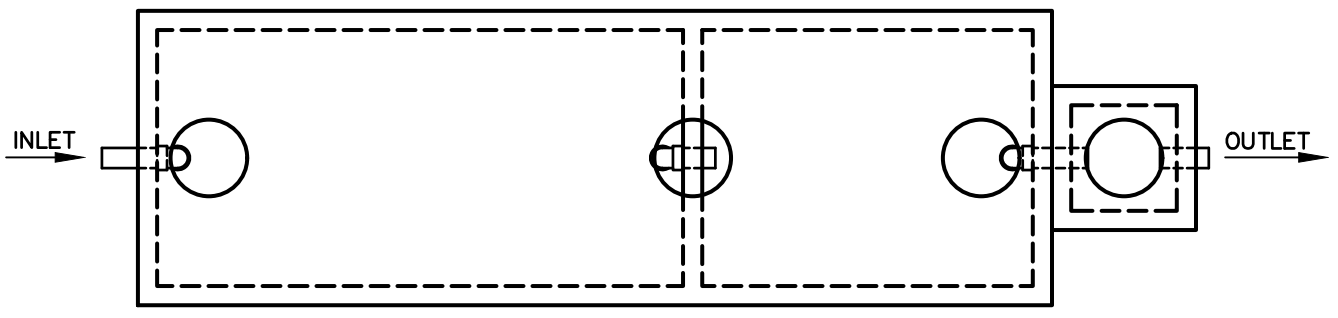
STD. DWG. NO.

S-25
 2 OF 2

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-26.DWG 11-15-21 15:19:04 LAYOUT: S-26



SIDE VIEW CUTAWAY
 NO SCALE



TOP VIEW (LIDS REMOVED)
 NO SCALE

NOTES:

1. GREASE INTERCEPTOR SIZE SHALL BE IN ACCORDANCE WITH THE 2019 CALIFORNIA PLUMBING CODE (CPC) REQUIREMENTS.
2. GREASE INTERCEPTORS SHALL BE DESIGNED, CONSTRUCTED, TESTED, AND MARKED IN ACCORDANCE WITH THE IAPMO PS-118-2000 PROPERTY STANDARD FOR FOG DISPOSAL SYSTEMS. SUBMIT SHOP DRAWINGS SHOWING COMPLIANCE.
3. ALL GREASE INTERCEPTORS SHALL BE PROVIDED WITH SAMPLE BOX, AS SHOWN.

LEUCADIA WASTEWATER DISTRICT

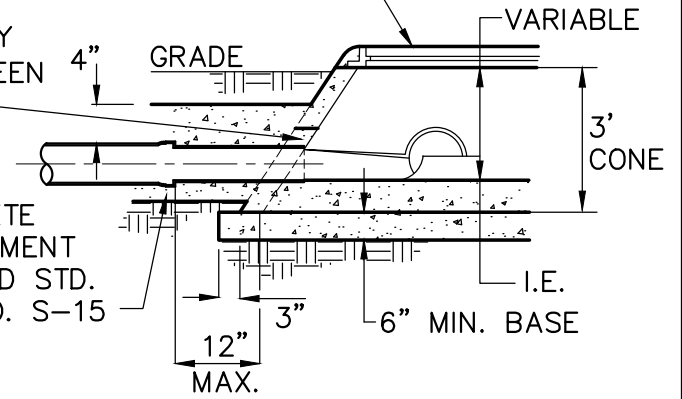
APPROVED 3/27/2019		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

TYPICAL GRAVITY GREASE INTERCEPTOR (GGI)
FOR 1500 GALLON AND LARGER

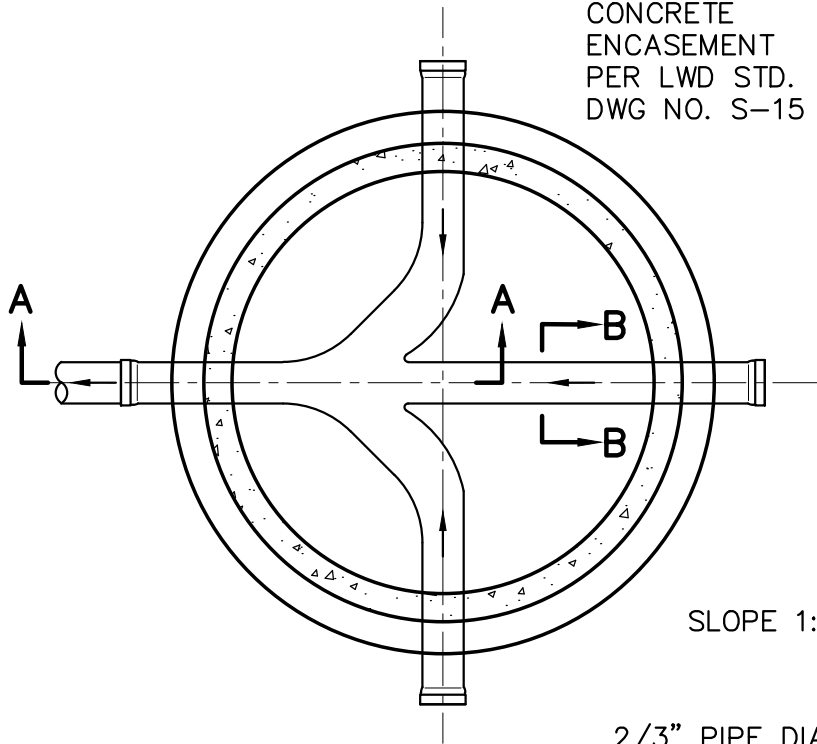
STD. DWG. NO.
S-26

MANHOLE FRAME AND COVER
ALHAMBRA A-1264 OR EQUAL

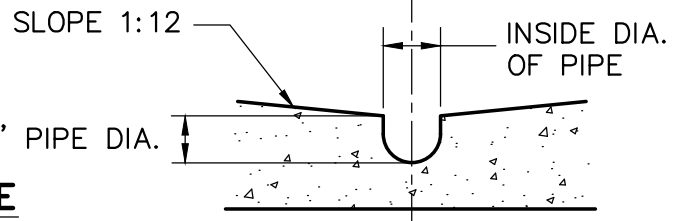
CUT AS NECESSARY
DRYPACK 2" BETWEEN
PIPE AND CONE



HALF SECTION A-A



PLAN-SHALLOW MH BASE



SECTION B-B (TYP)

NOTES:

1. MEET THE GENERAL REQUIREMENTS OF LWD STD. DWG. NO. S-3.
2. A 48" BY 24" INSIDE DIAMETER AND 36" TALL CONCENTRIC PRECAST MANHOLE SEGMENT SHALL BE USED FOR THE MANHOLE SHAFT.
3. FIELD ELEVATION MEASUREMENTS SHALL DETERMINE WHETHER THE CONCENTRIC RISER IS SET ON A CAST IN PLACE MANHOLE BASE, OR SET IN THE BASE AT A LOWER ELEVATION. IF SET LOWER IN THE BASE, THE SIDEWALLS OF THE PRECAST RISER WILL BE CORE DRILLED TO SUIT THE INLETS AND OUTLETS.
4. IF CORE DRILLED, PIPING SHALL BE SET IN PLACE WITH LINK-SEAL USING TYPE 316SS METALLIC COMPONENTS. SUBMIT METHOD AND MATERIALS FOR APPROVAL.
5. ADDITIONAL 24" DIAMETER INSIDE DIAMETER RISERS SHALL BE SET ON THE CONCENTRIC CASTING AS NECESSARY.
6. SUBMIT SITE SPECIFIC STRUCTURAL CALCULATIONS FOR ANY SHALLOW MANHOLE TO BE INSTALLED IN TRAFFIC AREAS.
7. NOT FOR USE IN VEHICLE TRAFFIC AREAS, UNLESS APPROVED BY THE DISTRICT ENGINEER.

LEUCADIA WASTEWATER DISTRICT

APPROVED 6/8/16
Stephen Osiring
RCE CA#26514 EXP. 3/31/18
DRAWN | CHKD. | REV.
KK | BT | CJD

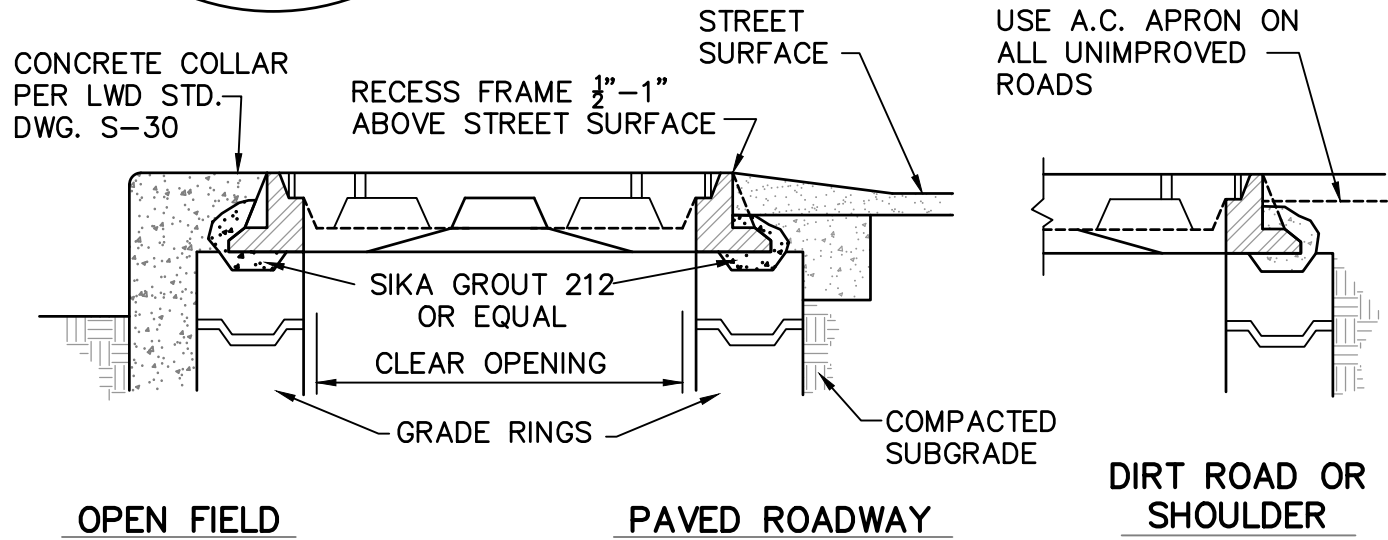
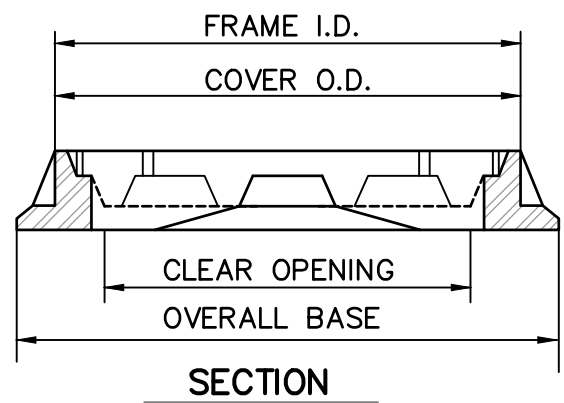
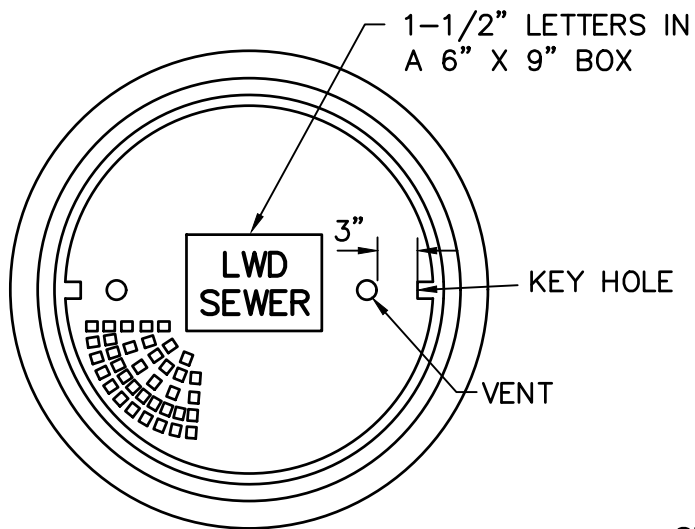
SHALLOW SEWER MANHOLE

STD. DWG. NO.

S-27

\\ARTIC\ENG\103500\STANDARD SPEC\2019 REVISION\STANDARD DRAWINGS\LWD_S-28.DWG 04-18-19 15:02:11 LAYOUT: S-28

MANHOLE COVER AND FRAME -REQUIRED DIMENSIONS-						
MANUFACTURER	CLEAR OPENING	COVER O.D.	FRAME I.D.	FRAME HEIGHT	OVERALL BASE	TOTAL WEIGHT
ALHAMBRA A1254-B	24"	26-1/2"	26-1/4"	3-1/2"	32"	305 LBS.
SOUTH BAY SBF 1900 BS	24"	25-5/16"	25-3/8"	4"-1/2"	31-1/2"	280 LBS.



SECTION THROUGH FRAME SHOWING TYPICAL INSTALLATION

NOTES:

- MANHOLE COVER SHALL BE DESIGNED FOR A.A.S.H.O. H-20 LOADING.
- CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 LBS. PER SQ. INCH.
- MANHOLE COVER SHALL BE "ALHAMBRA FOUNDRY CO." TYPE A1254-B OR APPROVED EQUAL.
- RAISE ALL UNIMPROVED AREA MANHOLES ABOVE GRADE AND USE BOLT DOWN COVERS.
- RAINSTOPPERS TO BE INSTALLED WHERE STORMWATER COULD COLLECT OVER MANHOLE.
- LOCKING TYPE MANHOLE FRAME AND COVER REQUIRED FOR ALL UNPAVED AREAS.

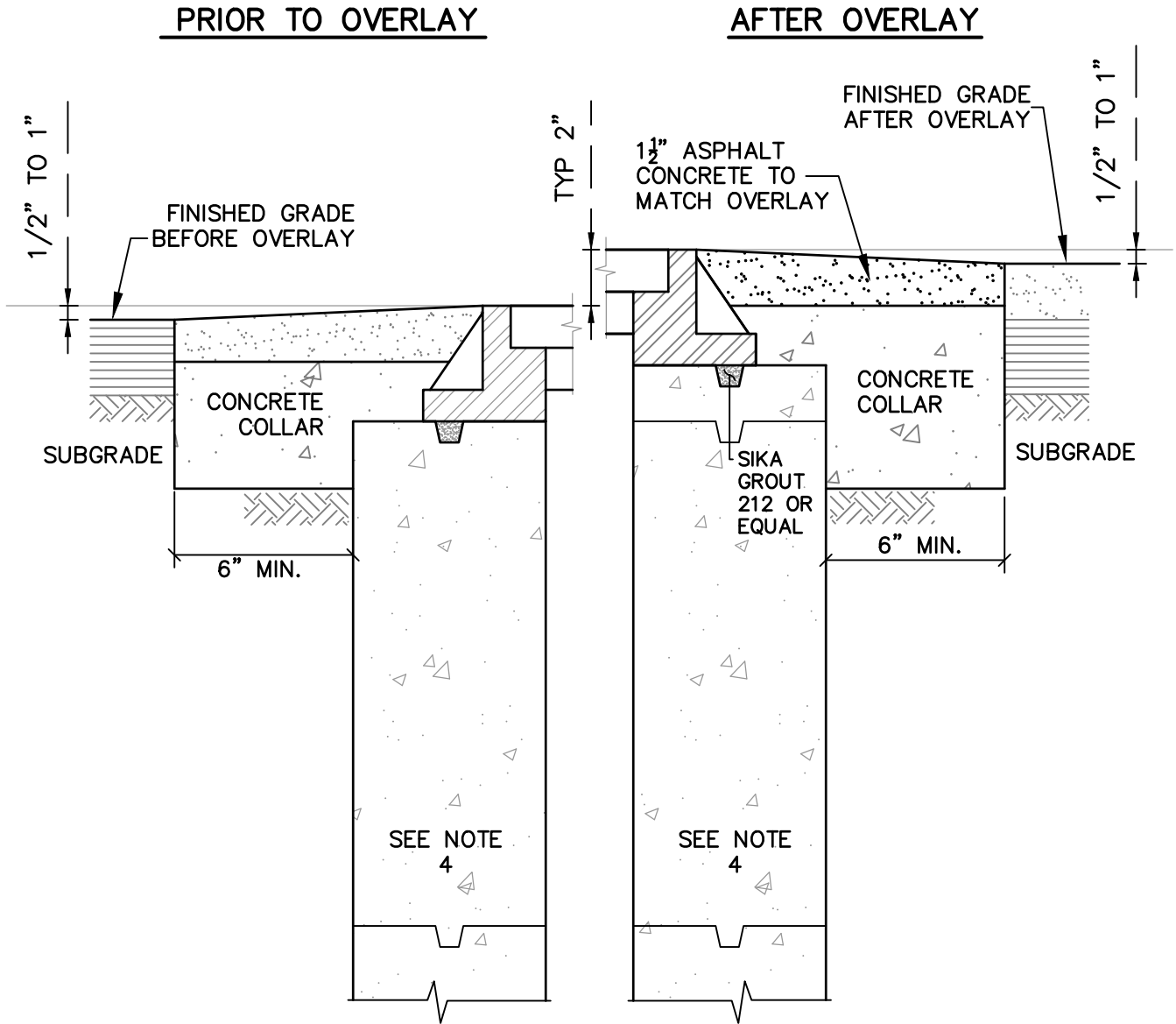
LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
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**MANHOLE FRAME AND COVER
LOCKING TYPE**

STD. DWG. NO.
S-28

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\1ST DRAFT\STANDARD DRAWINGS\LWD_S-29.DWG 11-15-21 15:33:14 LAYOUT: S-29



NOTES:

1. ROADWAY SEAL COAT SHALL EXTEND TO MANHOLE FRAME.
2. MANHOLE FRAME SHALL BE SET IN CLASS "C" MORTAR.
3. CONCRETE COLLAR SHALL BE PER LWD STD. DWG. S-30.
4. PRECAST MH PER LWD STD. DWG. NOS. S-3, S-4, OR S-5 AND PER PLANS.
5. MANHOLE FRAME & COVER PER LWD STD. DWG. NOS. S-3, S-4, S-5, S-6, S-7 AND PER PLANS.
6. MANHOLE LINING PER LWD STD. DWG. NO S-33.

LEUCADIA WASTEWATER DISTRICT

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RCE C33692 EXP 6/30/2020		
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KWB	KLH	NJF

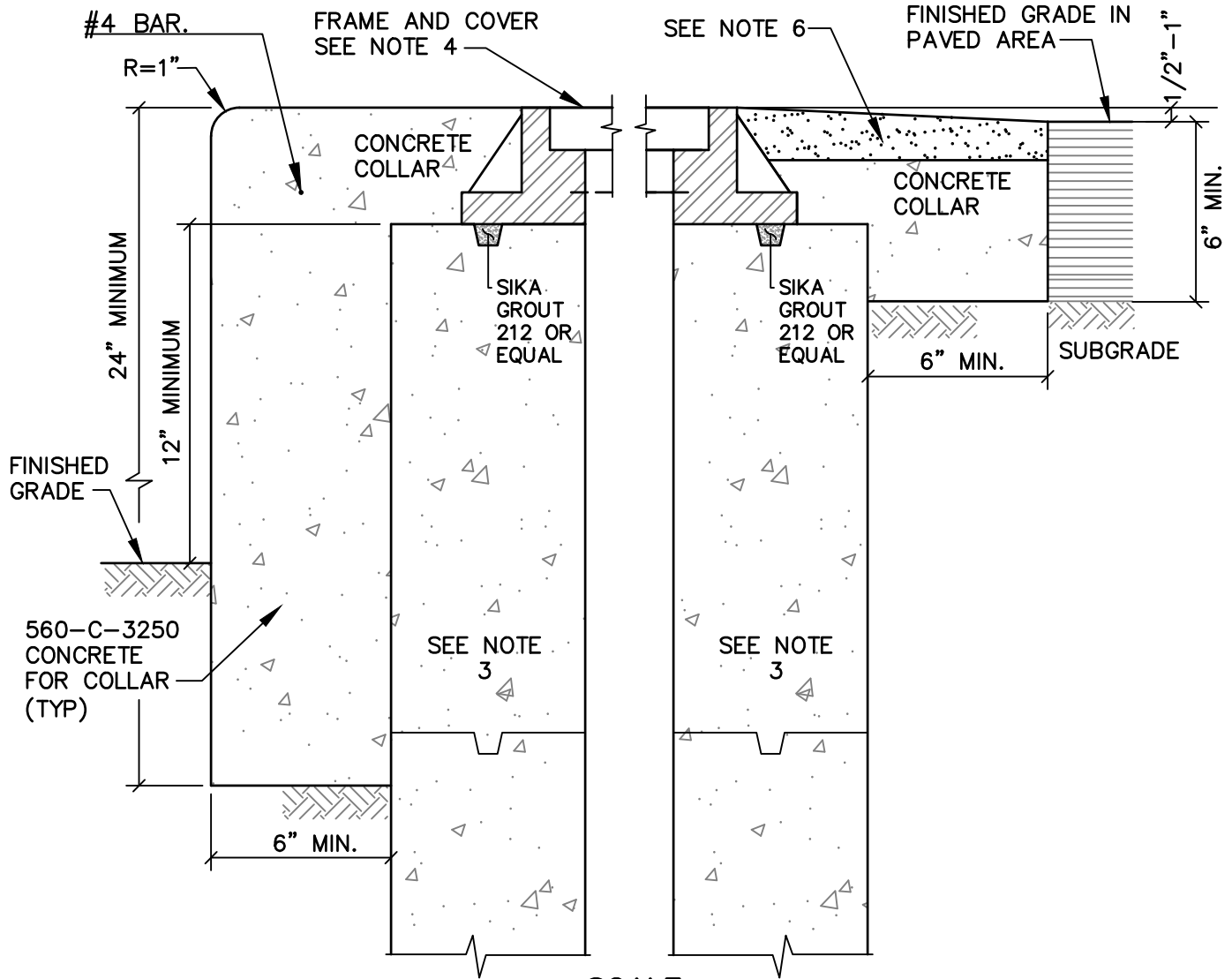
RAISING MANHOLES TO GRADE

STD. DWG. NO.
S-29

\\ARTIC\ENG\103500\STANDARD SPEC\2019 REVISION\STANDARD DRAWINGS\LWD_S-30.DWG 04-09-19 10:11:37 LAYOUT: S-30

FOR UNPAVED AREAS

FOR PAVED AREAS



SCALE:
NO SCALE

NOTES:

1. MANHOLE FRAME SHALL BE SET IN CLASS "C" MORTAR.
2. CONCRETE COLLAR SHALL BE 24" DEEP IN UNPAVED AREAS.
3. PRECAST MH PER LWD STD. DWG. NOS. S-3, S-4, OR S-5 AND PER PLANS.
4. MANHOLE FRAME & COVER PER LWD STD. DWG. NOS. S-3, S-4, S-5, S-6, S-7 AND PER PLANS.
5. MANHOLE LINING PER LWD STD. DWG. NO S-33.
6. 1 1/2" ASPHALT CONCRETE TO MATCH SURROUNDING AND SEAL COAT TO EXTEND TO MANHOLE FRAME

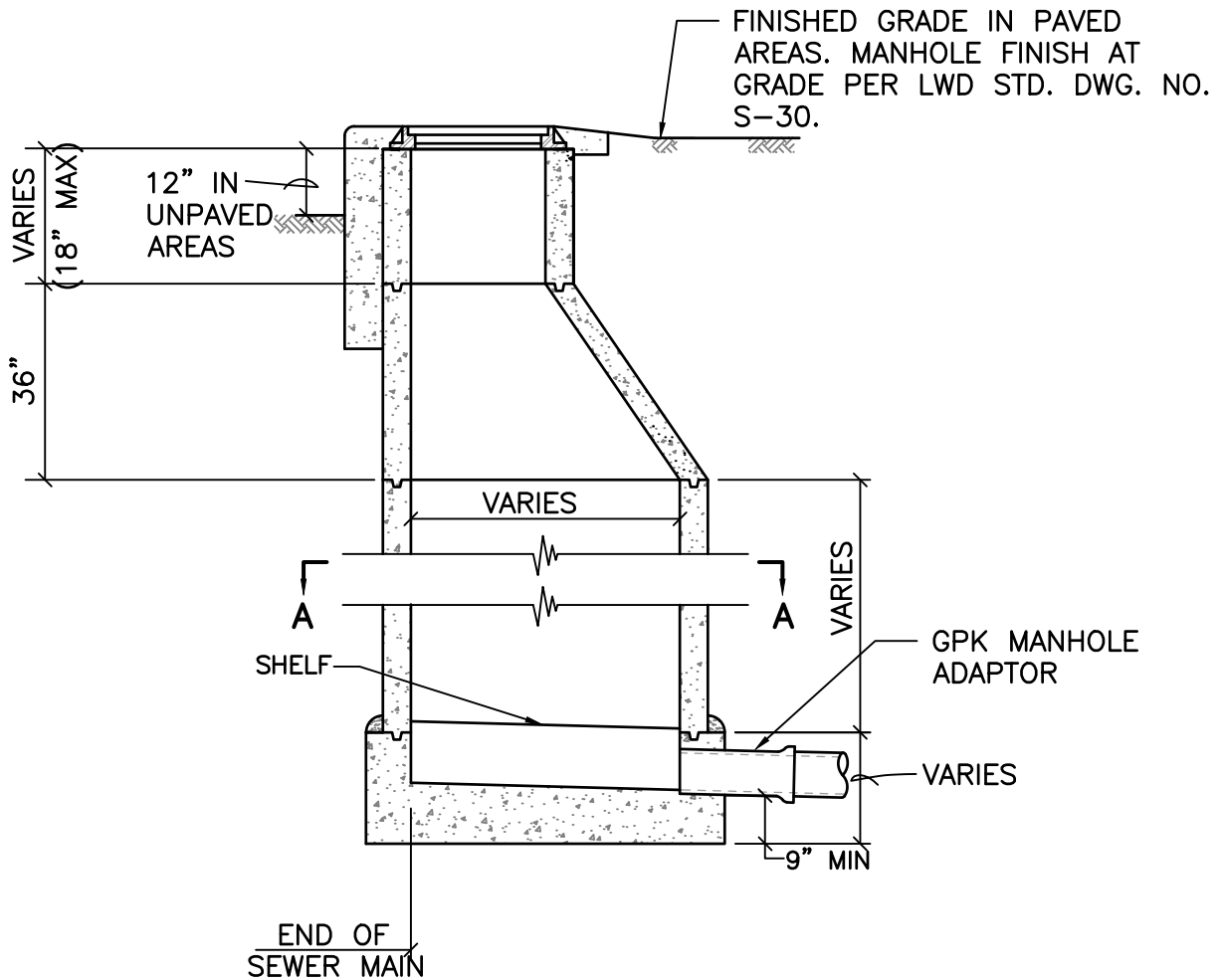
LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
RCE C33692 EXP 6/30/2020		
DRAWN	CHKD.	REV.
KWB	KLH	NJF

CONCRETE MANHOLE COLLAR

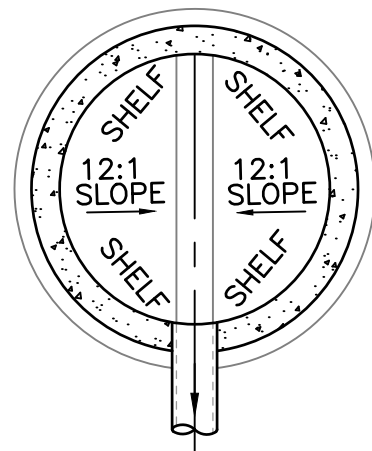
STD. DWG. NO.
S-30

\\ARTIC\ENG\103500\STANDARD SPEC\2019 REVISION\STANDARD DRAWINGS\LWD_S-31.DWG 03-21-19 16:47:47 LAYOUT: S-31



NOTES:

1. GPK "SAND COLLAR" MH ADAPTORS SHALL BE PROVIDED FOR ALL MH CONNECTIONS.
2. MANHOLE SHALL COMPLY WITH LWD STD. DWG. NO. S-3 FOR 4' DIA. OR S-4 FOR NO. 5' DIA.
3. MANHOLE SHALL BE LINED PER LWD STD. DWG. S-33.
4. MANHOLE CONCRETE COLLAR PER LWD STD. DWG. NO. S-30.



SECTION A-A

LEUCADIA WASTEWATER DISTRICT

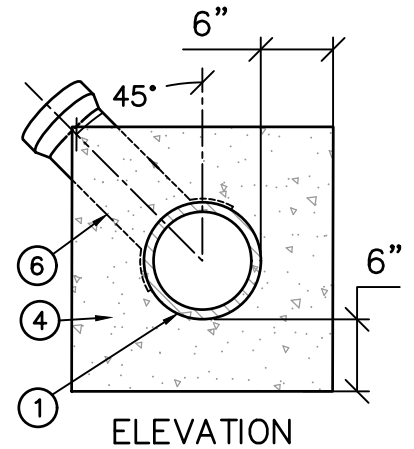
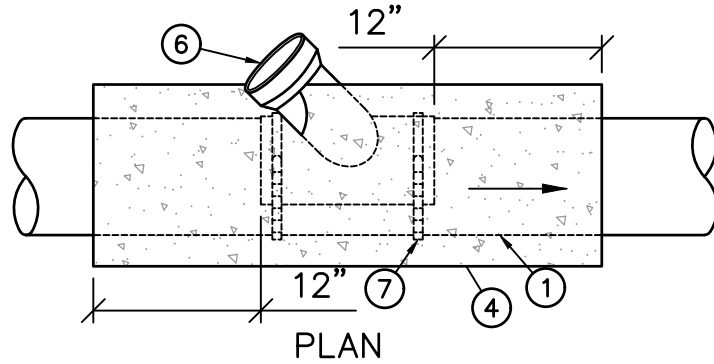
APPROVED 3/27/2019		
RCE C33692 EXP 6/30/2020		
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KWB	KLH	NJF

STANDARD TERMINAL MANHOLE

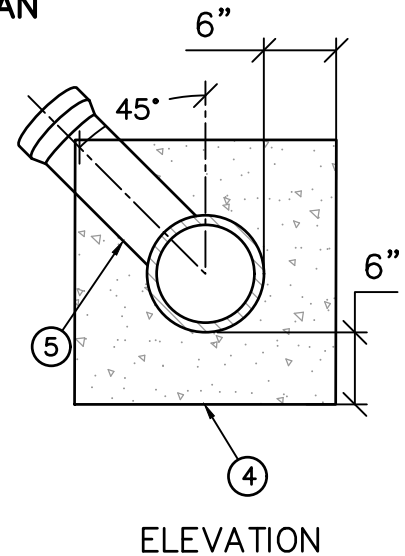
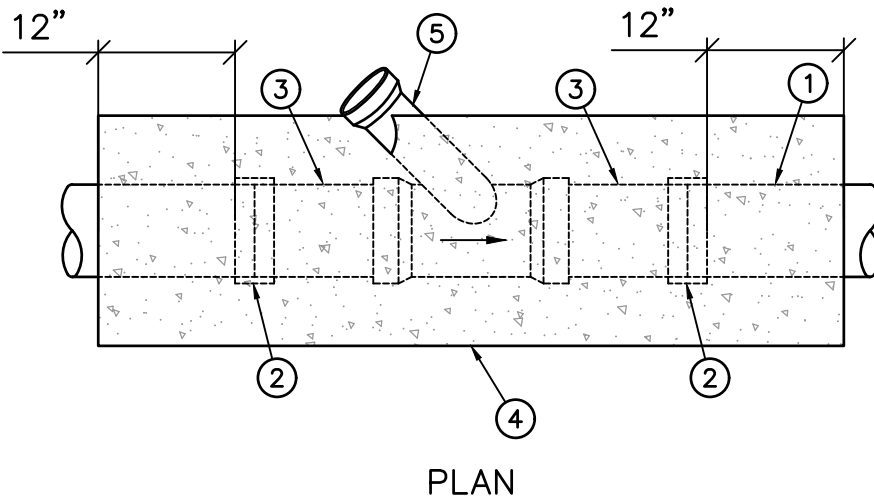
STD. DWG. NO.

S-31

**TYPE I – SADDLE WYE CONNECTION
FOR EXISTING 10" PIPE AND LARGER**



**TYPE II – CUT IN WYE CONNECTION
FOR EXISTING 8" PIPE AND REQUIRES BYPASS PLAN**



BYPASS PLAN NOTES

1. FOR ALL TYPE II CONNECTIONS, THE CONTRACTOR MUST SUBMIT A BYPASS PLAN TO THE LWD DISTRICT ENGINEER FOR REVIEW AND APPROVAL.
2. WHEN ALLOWED FOR TYPE II SEWER CONNECTIONS WITH FEWER THAN 25 EDUS CONNECTED UPSTREAM, THE UPSTREAM MANHOLE CAN BE TEMPORARILY PLUGGED WHILE THE CONNECTION IS MADE. PLUG MUST BE INSTALLED IN THE PRESENCE OF THE LWD FIELD INSPECTOR AND CAN BE INSTALLED FOR NO LONGER THAN 1 HOUR. THE MANHOLE UPSTREAM OF THE TEMPORARY PLUG MUST BE MONITORED AT ALL TIMES.
3. FOR TYPE II CONNECTIONS WITH 25 EDUS OR MORE UPSTREAM, OTHER METHODS OF SEWER BYPASS MUST BE USED. ACCEPTABLE BYPASSING METHODS INCLUDE BUT ARE NOT LIMITED TO PUMPING AND THE USE OF A VACUUM TRUCK.

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	EXISTING PVC OR VCP SEWER MAIN	④	CONCRETE ENCASEMENT
②	PVC REPAIR COUPLING, FERNCO 5000 SERIES FOR VCP, 1/4" MAX SPACING BETWEEN PIPE ENDS	⑤	45° PVC WYE
		⑥	45° PVC SADDLE WYE WITH GASKET, SIZE TO MATCH HOST PIPE O.D.
③	MIN 1' LONG PVC SEWER PIPE SPOOL	⑦	STAINLESS STEEL HOSE CLAMPS (2-EACH)

LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022

RCE C33692 EXP 6/30/2022

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**LATERAL CUT-IN CONNECTIONS
AND SEWER REPAIR DETAIL**

STD. DWG. NO.

S-32

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\2ND DRAFT\STANDARD DRAWINGS\LWD_S-33.DWG 01-12-22 17:07:28 LAYOUT: S-33-1

STANDARD CAST IRON MANHOLE FRAME AND COVER PER LWD STD. DWG. NO. S-6 OR S-7. CEMENT ON PLACE WITH SIKA GROUT 212 OR EQUAL

ADJUST GRADE HERE, SEE NOTE 9

MANHOLE PER LWD STD. DWG. NO. S-3, S-4, OR S-5

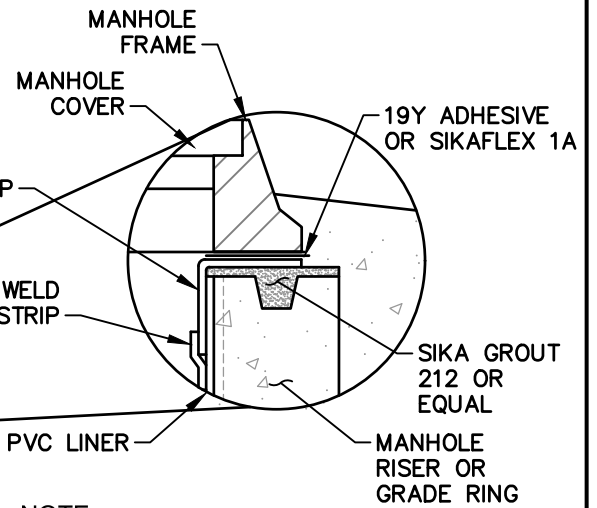
2"x 2" ANGLE STRIP

1" WELD STRIP

PVC LINER

PRECAST CONCRETE RINGS AND ECCENTRIC CONE

MANHOLE BASE TO BE LINED PER NOTES 3 AND 4



NOTE:

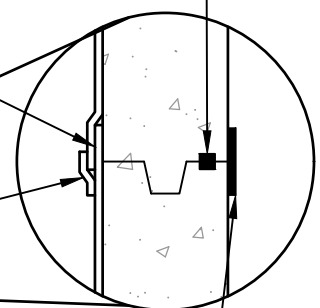
2"x 2" ANGLE STRIP TO BE ATTACHED TO MANHOLE FRAME USING 19Y ADHESIVE PRIOR TO SETTING FRAME.

2"x 2" BUTYL RUBBER GASKET SEE NOTE 7

2" MIN OVERLAP

1" WELD STRIP

JOINT WRAP SEE NOTE 7



LEUCADIA WASTEWATER DISTRICT

APPROVED 2/25/2022

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MMS	KLH	DSW

STANDARD INTEGRALLY LOCKING PVC MANHOLE LINER

STD. DWG. NO.

S-33
1 OF 2

\\ARTIC\ENG\103500\STANDARD SPEC\2022 REVISION\FINAL DRAFT\STANDARD DRAWINGS\LWD_S-33.DWG 02-04-22 16:40:28 LAYOUT: S-33-2

NOTES:

1. MANHOLE SECTIONS AND GRADE RINGS SHALL BE PER S-3, S-4 OR S-5 AND CAST WITH PVC LINER PLATE ON INSIDE.
2. CONTRACTORS SHALL SUBMIT MATERIALS SPECIFICATIONS, INSTALLATION PROCEDURES AND QUALIFICATIONS, TESTING PROCEDURES AND SHOP DRAWINGS FOR LWD REVIEW AND APPROVAL.
3. IN GENERAL, MANHOLE BASES FOR 8" SEWER PIPES SHALL BE CAST-IN-PLACE AND PROPERLY PREPARED, COATED, AND TESTED WITH AN EPOXY LINING SYSTEM PER SECTION 500 OF THE GREENBOOK. THEY MAY ALSO BE PRECAST AND PROVIDED WITH INTEGRALLY LOCKING PVC LINING. IF PRECAST, THE COMPLETE CONCRETE CHANNEL SHALL PVC LINED WITH A MINIMUM OF TWO EMBEDDED RIBBONS. INSTALL NON-SKID SURFACE ON PVC LINER OVER THE COMPLETE MANHOLE SHELF ON BOTH SIDES OF MAIN CHANNEL PER APPROVED LINER MANUFACTURER RECOMMENDATIONS. OTHER MANHOLE SYSTEMS SUCH AS GENEVA ARMOROCK™ AND PREDL SYSTEMS MAY BE SUBMITTED FOR REVIEW AND APPROVAL BY THE LWD DISTRICT ENGINEER.
4. LINING OF MANHOLES FOR SEWER PIPES GREATER THAN 8" IN DIAMETER SHALL BE DETERMINED ON A CASE BY CASE BASIS BY THE LWD DISTRICT ENGINEER.
5. WHEN APPROVED BY THE ENGINEER, THE NEW OR EXISTING MAIN LINE MAY BE USED FOR THE CHANNEL. PIPE CROWN SHALL BE REMOVED BY SAW CUTTING AND KEYWAY CUT INTO CHANNEL TO ACCEPT SIKAFLEX 1A OR APPROVED EQUAL TO SEAL TERMINATION OF PVC LINER. THE REMOVED SECTION LENGTH SHALL BE EQUAL TO THE MANHOLE SHAFT INSIDE DIAMETER.
6. ALL TERMINATING POINTS OF PVC LINER SHALL BE SEALED TO CONCRETE WITH SIKAFLEX 1A OR APPROVED EQUAL. A ONE INCH WIDE SECTION OF THE PVC LINER SHALL BE ABRADED WITH A MINIMUM OF 80 GRIT SAND PAPER WHERE SIKAFLEX 1A CONTACTS PVC. A 1/4" X 1/4" KEYWAY SHALL BE CUT INTO CONCRETE TO LOCK IN SIKAFLEX 1A.
7. THE KEYLOCK JOINT BETWEEN MANHOLE SECTIONS SHALL BE SEALED WITH 2"X 2" BUTYL RUBBER GASKET CPS-210 BY PRESS-SEAL OR APPROVED EQUAL. THE MASTIC SHALL BE PLACED ON THE OUTSIDE SHOULDER OF THE GROOVE. APPLY A 6" MINIMUM WIDTH OUTSIDE JOINT WRAP, RUB'R-NEK BY HENRY COMPANY, SEAL WRAP BY SEALING SYSTEMS, INC., OR EQUAL, TO ALL SHAFT JOINTS. GRADE RING JOINTS SHALL BE MORTAR.
8. INSTALL WELDING STRIPS AT PVC JOINTS, A PREFORMED CORNER WELDING STRIP AT THE BASE JOINT AND A CONTINUOUS PREFORMED CORNER AT THE TOP GRADE RING AND FRAME JOINT TO THE SECOND GRADE RING.
9. ADJUSTMENT TO GRADE SHALL OCCUR USING MORTAR BETWEEN FIRST AND SECOND GRADE RINGS. THE FRAME SHALL COMPLETELY BEAR ON PVC. INSTALL 19Y ADHESIVE OR EQUAL BY AMERON, OR CAULK SIKAFLEX 1A OR EQUAL IN THE JOINT BETWEEN THE FRAME AND THE PREFORMED PVC CORNER AT THE TOP GRADE RING..
10. PLACE CONCRETE COLLAR PER S-30.
11. VACUUM TESTING SHALL BE PERFORMED PER ASTM C-1224 UNLESS NOTED OTHERWISE.

LEUCADIA WASTEWATER DISTRICT

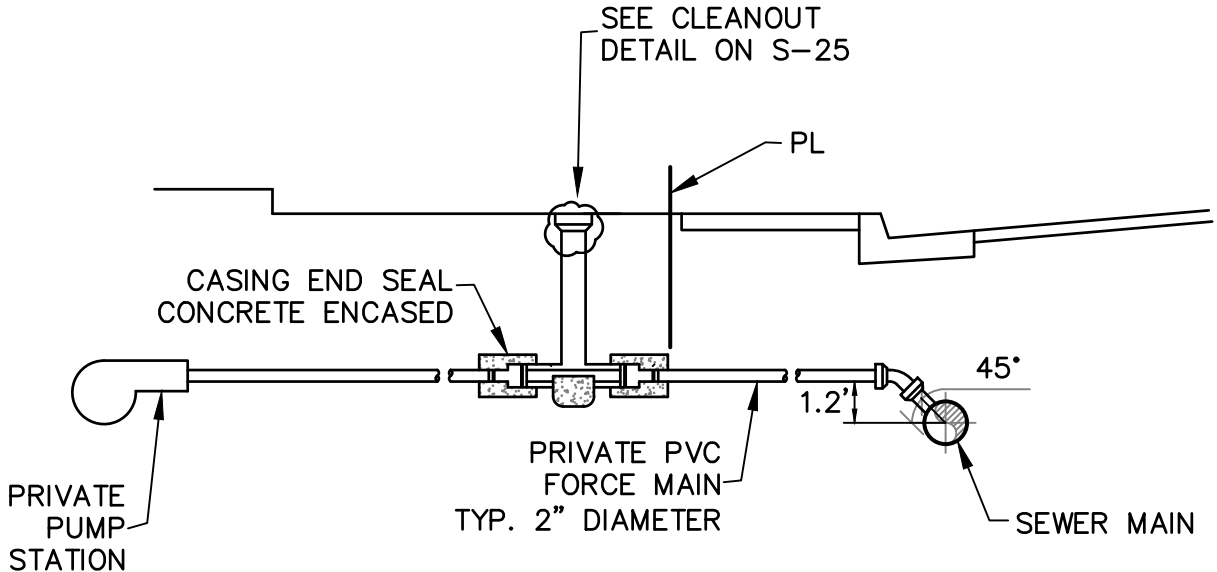
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RCE C33692 EXP 6/30/2022		
DRAWN	CHKD.	REV.
MMS	KLH	DSW

**STANDARD INTEGRALLY
LOCKING PVC MANHOLE LINER**

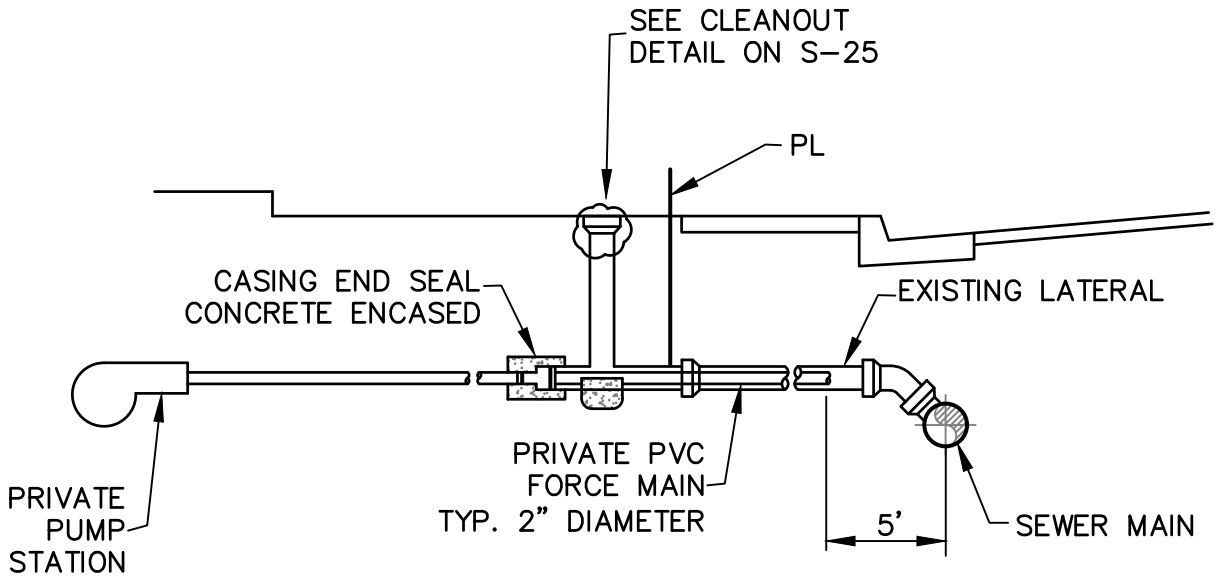
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S-33
 2 OF 2

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CONNECTION TO LWD SEWER MAIN



CONNECTION TO AN EXISTING LATERAL

NOTES:

1. UNLESS OTHERWISE SPECIFIED PUMP STATION FORCE MAIN CONNECTIONS SHALL CONFORM TO LWD STD. DWG. S-17
2. ALL NEW SEWER LATERAL CONNECTIONS SHALL BE MADE PER LWD STD. DWG. S-32.
3. CONCRETE ENCASEMENT OF CASING END SEALS SHALL BE 6" ABOVE AND BELOW PIPE AND 6" ON EITHER SIDE OF THE CASING END SEAL

LEUCADIA WASTEWATER DISTRICT

APPROVED 3/27/2019		
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PRIVATE PUMP STATION
FORCE MAIN CONNECTION

STD. DWG. NO.
S-34

LWD STANDARD SPECIFICATIONS

APPENDICES

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B	Grant of Non-Exclusive Sewer Easement.....3
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	Attachment A to Encroachment Permit1
D	Agreement to Improve Subdivision Sewers5
E	Performance Bond2
F	Materials and Labor Bond2
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H	Reimbursement Agreement4
I	Application for Sewer Plan Check and Construction Permit.....1
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K	LAFCO Change of Organization or Reorganization Application12
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Q	Quitclaim Deed and Release of Liability2
R	Private Sewer Agreement for Multi-Unit Lateral2
S	Private Pump Stations Agreement2
T-1	Sewer Permit Supplement (FOG) Owner2
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U	Protocol for Plugging or Unplugging Sewers.....3
V	Preconstruction Meeting Attachments4
W	Air Pressure Test Table.....1
X	Sewer Construction Materials List.....2
Y	Master Supplement Permit.....3
Z	Accessory Dwelling Unit Agreement1

APPENDIX A
Grant of Exclusive Sewer Easement

Recording Requested by:)
 Leucadia Wastewater District)
)
 When Recorded, Mail to:)
 District Engineer)
 Leucadia Wastewater District)
 1960 La Costa Avenue)
 Carlsbad, CA 92009)

SPACE ABOVE FOR RECORDERS USE ONLY

GRANT OF EXCLUSIVE SEWER EASEMENT

Assessor's Parcel
 No. _____

LWD Location Code _____

_____, its successors and assigns, ("GRANTOR") hereby grants to the LEUCADIA WASTEWATER DISTRICT, a governmental entity and its successors and assigns, ("GRANTEE"), a perpetual exclusive easement and right-of-way upon, in, across, over, and under the lands described below, to erect, install, construct, repair, replace, and maintain sewer pipelines and/or mains, manholes, sewer lateral pipelines, and all structures and appurtenances incidental thereto, (hereinafter "facilities"), above and below ground, at such locations within the easement as GRANTEE may from time to time determine.

Said easement is located in the City of _____, County of San Diego, State of California, and is more particularly described on Exhibits A and B attached hereto and incorporated herein by this reference.

GRANTOR grants the right of ingress and egress to GRANTEE to and from said easement by reasonable routes to carry out the purposes of this easement, together with the right to use the easement for GRANTEE's access to adjacent property. GRANTOR reserves to itself, and its successors and assigns, the right of ingress and egress across the easement surface at all times except during construction, repair, or maintenance of the facilities. GRANTOR additionally reserves to itself, and its successors and assigns the right to erect and maintain fencing and gates within or to the easement as long as the fencing does not unreasonably interfere with GRANTEE's use and maintenance of its facilities and provided GRANTEE is given a key or combination to gates that are locked.

GRANTOR shall not alter the easement grade or obstruct the surface area. GRANTOR shall not plant any landscaping (including trees), or construct any structures or improvements (including paving) within the easement without the prior written consent of GRANTEE. GRANTOR will be responsible for all such landscaping or improvements (including paving) consented to by GRANTEE within the easement, and GRANTEE will not be liable for any damage thereto.

Notwithstanding any consent granted by GRANTEE, GRANTEE shall have the right to alter, trim and/or remove landscaping or other improvements within the easement, including paving, as GRANTEE deems necessary for maintenance or repair purposes to otherwise exercise its rights under this easement, and GRANTOR waives any right to compensation for the alteration or removal of such improvements.

For routine construction, repair, and maintenance of GRANTEE's facilities within the easement, GRANTEE shall provide GRANTOR 48-hours notice in writing or by telephone prior to initiating work. GRANTEE shall not be obligated to provide GRANTOR with notice in the event of an emergency involving GRANTEE's facilities where the emergency precludes, as a practical matter, the giving of prior notice.

The easement conveyed by this grant is exclusive. Additional easements or rights-of-way across the easement are not permitted.

All terms and conditions of this easement shall be binding upon the parties, their successors and assigns. The benefits and burdens herein are intended, and shall, run with the land. In the event of litigation to interpret or enforce the terms and provisions of this easement, the prevailing party shall be entitled to recover reasonable attorney fees, expert fees, including engineering fees, and investigative fees, in addition to costs. This easement represents the entire agreement between the parties and shall not be modified except by a written instrument signed by the parties and recorded.

GRANTOR expressly warrants and represents that it has the power to grant this easement in accordance with its terms.

IN WITNESS WHEREOF, GRANTOR executed this Easement on this _____ day of _____, _____.

GRANTOR

GRANTOR

NOTARY REQUIRED

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by the Deed or Grant dated _____ from _____ to Leucadia Wastewater District, a political corporation and/or governmental agency, is hereby accepted by order of the Board of Directors of Leucadia Wastewater District on _____ (or by the undersigned officer or agent on behalf of the Board of Directors of Leucadia Wastewater District pursuant to authority conferred by Resolution No. 2316 of the Board of Directors of Leucadia Wastewater District adopted on May 8, 2019), and the Grantee consents to recordation thereof by its duly authorized officer.

DATED: _____

SECRETARY-MANAGER
LEUCADIA WASTEWATER DISTRICT

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APPENDIX B
Grant of Non-Exclusive Sewer Easement

Recording Requested by:)
Leucadia Wastewater District)
)
When Recorded, Mail to:)
District Engineer)
Leucadia Wastewater District)
1960 La Costa Avenue)
Carlsbad, CA 92009)

SPACE ABOVE FOR RECORDERS USE ONLY

GRANT OF NON-EXCLUSIVE SEWER EASEMENT

Assessor's Parcel
No. _____

LWD Location Code _____

_____, its successors and assigns, ("GRANTOR") hereby grants to the LEUCADIA WASTEWATER DISTRICT, a governmental entity and its successors and assigns, ("GRANTEE"), a perpetual nonexclusive easement and right-of-way upon, in, across, over, and under the lands described below, to erect, install, construct, repair, replace, and maintain sewer pipelines and/or mains, manholes, sewer lateral pipelines, and all structures and appurtenances incidental thereto, (hereinafter "facilities"), above and below ground, at such locations within the easement as GRANTEE may from time to time determine.

Said easement is located in the City of _____, County of San Diego, State of California, and is more particularly described on Exhibits A and B attached hereto and incorporated herein by this reference.

GRANTOR grants the right of ingress and egress to GRANTEE to and from said easement by reasonable routes to carry out the purposes of this easement, together with the right to use the easement for GRANTEE's access to adjacent property. GRANTOR reserves to itself, and its successors and assigns, the right of ingress and egress across the easement surface at all times except during construction, repair, or maintenance of the facilities. GRANTOR additionally reserves to itself, and its successors and assigns the right to erect and maintain fencing and gates within or to the easement as long as the fencing does not unreasonably interfere with GRANTEE's use and maintenance of its facilities and GRANTEE is given a key or combination to gates that are locked.

GRANTOR shall not alter the easement grade or obstruct the surface area. GRANTOR shall not plant any landscaping (including trees) or construct any structures or improvements (including paving) within the easement without the prior written consent of GRANTEE. GRANTOR will be responsible for all such landscaping or improvements (including paving) consented to by GRANTEE within the easement, and GRANTEE will not be liable for any damage thereto.

Notwithstanding any consent granted by GRANTEE, GRANTEE shall have the right to alter, trim and/or remove landscaping or other improvements within the easement, including paving, as GRANTEE deems necessary for maintenance or repair purposes, or to otherwise exercise its rights under this easement, and GRANTOR waives any right to compensation for the alteration or removal of such improvements.

For routine construction, repair, and maintenance of GRANTEE's facilities within the easement, GRANTEE shall provide GRANTOR 48 hours notice in writing or by telephone prior to initiating work. GRANTEE shall not be obligated to provide GRANTOR with notice in the event of an emergency involving GRANTEE's facilities where the emergency precludes, as a practical matter, the giving of prior notice.

The easement conveyed by this grant is not exclusive and GRANTOR reserves the right to grant easement rights to others or to dedicate the land subject to the easement to a public agency, provided that GRANTOR shall not have the right to convey rights to any other party to make a use in the easement that interferes with, restricts, or conflicts with the rights granted to GRANTEE hereby. GRANTOR shall notify GRANTEE within a reasonable time prior to the granting of any future easement or use within the easement, and allow GRANTEE the opportunity to review any such grant or use in order that GRANTEE is reasonably assured that its rights herein will not be interfered with or restricted in any way whatsoever.

All terms and conditions of this easement shall be binding upon the parties, their successors and assigns. The benefits and burdens herein are intended, and shall, run with the land. In the event of litigation to interpret or enforce the terms and provisions of this easement, the prevailing party shall be entitled to recover reasonable attorneys fees, expert fees, including engineering fees, and investigative fees, in addition to costs. This easement represents the entire agreement between the parties and shall not be modified except by a written instrument signed by the parties and recorded.

GRANTOR expressly warrants and represents that it has the power to grant this easement in accordance with its terms.

IN WITNESS WHEREOF, GRANTOR executed this Easement on this _____ day of _____, _____.

GRANTOR

GRANTOR

NOTARY REQUIRED

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by the Deed or Grant dated from _____ to Leucadia Wastewater District, a political corporation and/or governmental agency, is hereby accepted by order of the Board of Directors of Leucadia Wastewater District on _____ (or by the undersigned officer or agent on behalf of the Board of Directors of Leucadia Wastewater District pursuant to authority conferred by Resolution No. 2316 of the Board of Directors of Leucadia Wastewater District adopted on May 8, 2019), and the Grantee consents to recordation thereof by its duly authorized officer.

DATED: _____

SECRETARY-MANAGER
LEUCADIA WASTEWATER DISTRICT

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APPENDIX C
Encroachment Permit

Recording requested by:)
Leucadia Wastewater District)

When recorded mail to:)
Leucadia Wastewater District)
1960 La Costa Avenue)
Carlsbad, CA 92009-6810)
For the benefits of the District)

SPACE ABOVE FOR RECORDERS USE ONLY

ENCROACHMENT PERMIT NO. _____

Assessor's Parcel
No. _____

LWD Location Code _____

An encroachment permit is hereby issued to the "Permittee" designated on Attachment A - Paragraph One, as the owner of the "Benefited Property" described on Attachment A - Paragraph Two, to encroach upon Leucadia Wastewater District ("District") Easement or Property described on Attachment A - Paragraph Three ("District Property"), for the "Purposes" described on Attachment A - Paragraph Four and Attachment B. This encroachment permit only pertains to encroachment on the sewer easement dedicated to Leucadia Wastewater District and does not provide encroachment rights for any other agency with prior easement or property rights to the same area. Attachments A and B are hereby incorporated herein by this reference as though fully set forth at length. In consideration of the issuance of this encroachment permit ("Permit"), Permittee hereby covenants and agrees, for the benefit of the District, as follows:

1. This covenant shall run with the land and be binding upon and inure to the benefit of the future owners, encumbrances, successors, heirs, personal representatives, transferees, and assigns of District and Permittee.
2. Permittee shall use and occupy the District Property only in the manner and for the Purposes described in Attachments A and B.
3. By accepting the benefits herein, Permittee acknowledges that all rights and obligations possessed by the District with respect to the District Property remain and continue in full force and effect and shall in no way be affected by the District's issuance of this Permit.
4. This Permit may be revoked by the District in its sole discretion at any time, or abandoned by Permittee with prior written notice to the District. Permittee shall remove any and all encroachments and fully restore the District Property prior to abandonment. The District shall mail written notice of revocation to Permittee, addressed to the Benefited Property, which shall set forth the date upon which the benefits of this Permit are to cease.
5. The improvements (also referred to as "encroachments") authorized by this Permit shall be installed and maintained in a safe and sanitary condition at the sole cost, risk, and responsibility of the Permittee and its successors in interest without exception, including,

but not limited to, any damages to, or arising from, the encroachment caused by the District's maintenance or construction requirements. Permittee is solely responsible for ensuring the structural integrity and safety of the encroachments and for obtaining necessary building permits or other agency permits. District's approval of this Permit is not an endorsement of the encroachments or a determination regarding the adequacy of their design or whether they comply with any non-District codes or standards.

6. The Permittee shall at all times defend, indemnify and save the District and its officers, employees and agents (collectively "indemnified parties") free and harmless from, and pay in full, any and all claims, demands, losses, damages or expenses that an indemnified party may sustain or incur in any manner resulting from the construction, maintenance, state of use, repair or presence of the encroachment installed hereunder, including any loss, damage or expense arising out of (1) loss or damage to property, and (2) injury to or death of persons; including, without limitation, claims caused by the sole passive negligence or the concurrent negligent acts, errors or omissions of an indemnified party, whether active or passive, excepting any loss, damage or expense and claims for loss, damage or expense resulting from the willful misconduct or sole active negligence of an indemnified party.
7. District is entitled to remove all, or a portion of, the Permittee's encroachment to repair, replace, or install public improvements. District shall have no obligation to pay for or restore Permittee's encroachments.
8. Whenever it is determined by the District that the encroachments are interfering with District facilities or operations, the District, in its sole discretion may revoke this Permit at which time Permittee shall remove all encroachments, or require Permittee to provide an alternate right-of-way and/or to relocate the District Property and facilities to a new alignment, all without cost or expense to the District.
10. Upon abandonment or revocation, Permittee shall, at no cost to the District, remove all improvements authorized by this Permit and return District Property to its pre-permit condition within the time specified in the notice of revocation or prior to the date of abandonment.
11. If Permittee fails to restore the District Property, the District shall have the right, after notice to the Permittee delivered at the Benefited Property, to restore the District Property to its pre-permit condition (including the removal and destruction of any encroachments or improvements) and Permittee agrees to reimburse the District for the costs incurred.
12. The Permittee shall maintain a policy of liability insurance in a form and amount satisfactory to the District in order to protect the District from any potential claims which may arise from the encroachment.
13. If either party is required to incur costs to enforce the provisions of this covenant, the prevailing party shall be entitled to full reimbursement for all costs, including reasonable attorney's fees.
14. Permittee agrees that Permittee's duties and obligations under this covenant are a lien upon the Benefited Property. Upon 30-day notice, and an opportunity to respond, the

District may add to the tax bill of the Benefited Property any past-due financial obligation owing to District arising hereunder.

15. Permittee recognizes and understands that this Permit may create a possessory interest subject to property taxation and that the Permittee may be subject to the payment or property taxes levied on such interest.
16. As a condition precedent to Permittee's right to go upon the District Property, this Permit must first be signed by the Permittee, notarized, executed by the District and recorded with the County Recorder of the County of San Diego. The recording fee shall be paid by Permittee.

Approved and issued by the Leucadia Wastewater District in Carlsbad, California, this _____ day of _____, _____.

AGREED AND ACCEPTED:

By: _____ Date _____
(Signature of Permittee)

NOTARY REQUIRED

ISSUED:

LEUCADIA WASTEWATER DISTRICT

By: _____ District Manager Date _____

**ATTACHMENT A TO
ENCROACHMENT PERMIT NO. _____**

(Parcel Identification)

PARAGRAPH ONE:

Permittee:

PARAGRAPH TWO:

Benefited Property:

PARAGRAPH THREE:

District Easement or Property:

PARAGRAPH FOUR:

Purpose: (include project drawing as Attachment B)

APPENDIX D

Agreement to Improve Subdivision Sewer

LEUCADIA WASTEWATER DISTRICT

AGREEMENT TO IMPROVE SUBDIVISION SEWERS

This Agreement is entered into by and between, LEUCADIA WASTEWATER DISTRICT, hereinafter referred to as "DISTRICT", and _____, hereinafter referred to as "SUBDIVIDER".

RECITALS

SUBDIVIDER wishes to arrange for sewer service in an area within the DISTRICT known as _____

and the DISTRICT is willing to supply sewer service to said area under the terms and conditions of this Agreement.

IT IS, THEREFORE, AGREED BETWEEN THE PARTIES AS FOLLOWS:

1. SUBDIVIDER shall construct and complete, or cause to be constructed and completed, sewer facilities to serve the subject area in accordance with all of the DISTRICT'S standards and procedures for design and construction of private sewers, including, among others, the DISTRICT'S Standard Specifications for Privately Constructed Wastewater Facilities ("LWD Standard Spec"). SUBDIVIDER has/had been provided with a copy of the LWD Standard Spec. The estimated cost of said work and improvements is _____.

2. The plans and specifications for the sewer facilities must be approved by the DISTRICT ENGINEER prior to initiation of construction. Upon mutual consent of the parties, DISTRICT may make such changes, alterations or additions to the approved plans and specifications which do not exceed ten percent (10%) of the original estimated costs of the improvement as may be determined necessary and desirable by DISTRICT for the proper completion of the said work and improvements, and no such changes, alterations or additions shall relieve the surety or sureties on any bond given for the faithful performance of this Agreement.

3. SUBDIVIDER acknowledges and agrees that both the approved Improvement Plans and this Agreement terminate one year after the date of District Engineer approval signature of the Improvement Plans, if construction of the approved sewer improvements has not begun within that one-year period.

4. The sewer facilities shall be constructed at no cost to DISTRICT. SUBDIVIDER agrees that the work done shall be subject to inspection by and to the satisfaction of the DISTRICT, and the improvements shall not be deemed complete until final inspection and approval by DISTRICT. Ownership of the sewer facilities, with the exception of sewer laterals, shall transfer to DISTRICT upon execution of a Notice of Acceptance by the DISTRICT General Manager.

5. DISTRICT shall be allowed to inspect the facilities during all stages of the construction and all materials installation and construction work shall be performed only in the presence of the DISTRICT'S authorized representative, unless otherwise allowed by said authorized representative. DISTRICT shall be notified a minimum of forty-eight (48) hours prior to the commencement of any construction. Within fifteen (15) days of DISTRICT'S final approval of the facilities, SUBDIVIDER shall file a Notice Of Completion with the San Diego County Recorder. Within ten (10) days thereafter, notice of the filing shall be sent (via registered or certified mail, or by first-class mail, evidenced by a certificate of mailing) to all contractors hired by SUBDIVIDER and all other potential claimants that provided preliminary 20-day notices. SUBDIVIDER shall provide DISTRICT with a copy of the recorded Notice of Completion and proof that all notice requirements have been satisfied. Not less than sixty-five (65) days after the filing of the Notice of Completion, the sewer facilities shall be donated by SUBDIVIDER to DISTRICT, with the exception of sewer laterals, and upon acceptance by DISTRICT, shall be owned and operated by DISTRICT. DISTRICT will not accept the facilities unless they are free of mechanics liens. SUBDIVIDER shall furnish to DISTRICT satisfactory proof (ordinarily in the form of a title company report) that no liens were filed against the project prior to the expiration of the lien period.

6. SUBDIVIDER shall convey to DISTRICT easements covering the property in which the sewer facilities are located in all instances where the facilities are not located in a dedicated public street. The legal descriptions of the easements, and title conveyed must be approved by DISTRICT. The standard easement processing fee and costs of a policy of title insurance insuring clear title to the easement in DISTRICT shall be paid by SUBDIVIDER. Where approved plans include installation of sewer facilities within existing DISTRICT easements, work shall be subject to the terms and conditions of the easement, shall be done in a manner that minimizes inconvenience to the underlying property owner and as directed by the District, and shall include repair and restoration of improvements within the easement area that are altered or damaged during installation.

7. SUBDIVIDER shall pay DISTRICT, upon filing of the plans and specifications, the current standard plan checking fees. SUBDIVIDER shall pay DISTRICT, prior to the commencement of construction, the current standard construction inspection fees. SUBDIVIDER shall pay all other fees required by the LWD Standard Spec or other DISTRICT rules or regulations applicable to the sewer facilities improvement project.

8. SUBDIVIDER shall obtain, at its expense, all necessary permits required by the City of Carlsbad, City of Encinitas, County, State, or other public agency in connection with the construction of the sewer facilities.

9. SUBDIVIDER shall, and hereby does, guarantee all work for a period of one (1) year after date of acceptance of the sewer facilities by DISTRICT and shall repair or replace any and all such work, together with any other work, which may be displaced in so doing, that may prove defective in workmanship and/or materials within a one-year period from the date of acceptance of the work by DISTRICT without expense whatsoever to DISTRICT; ordinary wear and tear, unusual abuse or neglect excepted. DISTRICT will give notice of observed defects with reasonable promptness. SUBDIVIDER shall notify DISTRICT upon completion of repairs or replacements. In the event SUBDIVIDER fails to comply with DISTRICT'S request for correction within one week after being notified in writing by DISTRICT, DISTRICT is hereby authorized in its sole discretion to proceed to have the defects repaired and/or replaced and made

good at the expense of SUBDIVIDER who hereby agrees to pay the cost and charges immediately upon demand. In the event DISTRICT elects to repair the defective work, such action by DISTRICT will not relieve SUBDIVIDER of the guarantees provided in this paragraph.

10. SUBDIVIDER shall post or cause to be posted with DISTRICT the following improvement security:

A) A good and sufficient performance bond in an amount not less than one hundred percent (100%) of the estimated cost of said work and improvements as above specified for the faithful performance of the terms and conditions of this Agreement; and

B) A good and sufficient materials and labor bond in an amount not less than fifty percent (50%) of the estimated cost of said work and improvements as above specified securing payment to the Contractor, his subcontractors and to persons renting equipment or furnishing labor or materials to them for the improvements.

The form of the bonds shall be as specified by DISTRICT. Should the sureties on either of said bonds or either of them become insufficient, SUBDIVIDER agrees to renew said bond or bonds with good and sufficient sureties, within ten (10) days after receiving notice that said sureties are insufficient.

11. Sewer facilities constructed by SUBDIVIDER shall be connected by SUBDIVIDER to the existing sewer lines of DISTRICT in a manner approved by DISTRICT. The sewer facilities shall not be connected to the sewer lines of DISTRICT until Notice of Acceptance has been obtained from DISTRICT, or a Temporary Service Agreement has been approved by the DISTRICT. When all construction work has been completed, except connection to the sewer lines of the DISTRICT system, SUBDIVIDER shall notify DISTRICT in writing that the work is ready for final inspection and approval. A duly authorized representative of DISTRICT shall thereupon inspect the work, and either issue a Field Approval to SUBDIVIDER, or reject the work pending fulfillment of unsatisfied requirements. A Notice of Acceptance shall not be issued until the following requirements have been satisfied:

A) All work has been completed in accordance with the plans and specifications, all manhole covers have been made flush with the street surface or as otherwise required, and all debris has been cleaned from the sewers;

B) A set of original, reproducible plans and two (2) blue line prints, corrected to conform to the work as constructed has been submitted to the DISTRICT; and

C) All other requirements set forth in the Standard Spec for Final Acceptance have been satisfied.

12. Upon issuance of the Notice of Acceptance or issuance of a Temporary Service Agreement, the sewer facilities may be connected to the DISTRICT sewer line. The sewer facilities shall be operated by DISTRICT in accordance with the rules and regulations of DISTRICT as they from time to time exist, and the connection charges and sewer service charges shall be in accordance with DISTRICT'S rate schedule as it from time to time exists. No service connection shall be made to the sewer facilities until the applicable connection charges have been paid to DISTRICT.

13. DISTRICT shall not, nor shall any officer, agent or employee of DISTRICT, be liable or responsible for any accident, loss or damage happening or occurring to the work or improvements specified in this Agreement prior to the completion and acceptance of the same, nor shall DISTRICT be liable for any persons injured or property damaged by reason of said work, or improvements, but all of said liabilities shall be assumed by SUBDIVIDER, who agrees to indemnify, defend, and save harmless DISTRICT and its officers, agents and employees (“indemnified parties”) from and against any and all claims, demands losses, costs, and causes of action of any nature, and any expense incident to defense thereof (including attorney's fees), for injury to or death of persons or damage to property arising out of the construction of the sanitary sewer facilities, excepting claims based upon the willful misconduct or sole negligence of an indemnified party, and excepting claims to the extent caused by the active negligence of an indemnified party. SUBDIVIDER further agrees to indemnify and defend DISTRICT and its officers, agents and employees from all liens, stop notices, liability, losses, claims, demands, costs and/or causes of action arising out of the construction of the subject sewer facilities including the cost of repairs, restoration of damage, payment for any labor or materials furnished in connection with, or arising out of the use of any patent or patented articles in the construction of said improvements, excepting claims based upon the willful misconduct or sole negligence of an indemnified party, and excepting claims to the extent caused by the active negligence of an indemnified party.

14. DISTRICT shall not, nor shall any officer or employee of DISTRICT, be liable for any portion of the expense of the aforesaid work or for the payment for any labor or materials furnished in connection therewith.

15. If any legal action or proceeding is brought by either party to enforce or interpret this Agreement, the prevailing party will be entitled to receive from the other party, in addition to any other relief granted, the reasonable attorney's fees, costs, and expenses incurred in the action or proceeding.

IN WITNESS WHEREOF, the parties hereto have entered into this Agreement on the _____ day of _____, _____.

"LEUCADIA WASTEWATER DISTRICT"

By: _____

Its: _____
General Manager

"SUBDIVIDER"

By: _____

Its: _____

NOTARY REQUIRED

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APPENDIX E
Performance Bond

PERFORMANCE BOND

For Improvement of Subdivision Sewers

KNOW ALL MEN BY THESE PRESENT: THAT WE _____
_____ (Subdivider) as Principal, and _____
_____ (Bonding Company), organized and
existing under the laws of the State of _____ and authorized
to act as Surety in the Sate of California, as Surety, are held and firmly bound unto the
LEUCADIA WASTEWATER DISTRICT, in the just and full sum of \$ _____
lawful money of the United States for the payment of which, well and truly made, we bind
ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally,
firmly and by these presents.

The conditions of the foregoing obligation is such that whereas said Principal has entered
into or is about to enter into the annexed agreement with the LEUCADIA WASTEWATER
DISTRICT, pursuant to the authority of the Wastewater District law of the State of California,
for the construction of sanitary sewer facilities within streets and easements offered for
dedication on the final map of subdivision of _____
_____ (Name of Subdivision) or to be
improved in connection with said subdivision, and whereas this bond is required by said District
in connection with the execution of said agreement.

NOW, THEREFORE, if the said Principal shall well and truly do and perform all of the
covenants and obligations of said agreement dated _____ to be done and performed
at the times and in the manner specified therein (including, but not limited to, the guarantee of all
work and material for a period of one year from the date of acceptance), and shall make full
payments to all contractor, their sub-contractors and to persons renting equipment or furnishing
labor or material to them for the improvement on the prosecution of the work provided for in
said agreement, then the above obligations shall be void and of no effect; otherwise, it shall be
and remain in full force and effect.

And the said Surety, for value received, thereby stipulates and agrees that no change,
extension of time, alteration or addition to the terms of the agreement or to the work or
improvements to be performed thereunder or to the plans or specifications attached to said
agreement shall in any ways affect its obligations on this bond, and it does hereby waive notice
of any such change, extension of time, alteration or additions to the terms of the agreement or to
the work or improvements or to the plans or specifications.

If any action is commenced on this bond by the District, in addition to the sum specified
above, the Principal and the Surety, their heirs, executors, administrators, successors and assigns,
jointly and severally, shall be obligated to pay to the District all costs, attorney's fees and other
litigation expenses incurred by the District in collecting moneys due under the terms of this
bond.

WITNESS OUR HANDS this _____ day of _____, _____.

(Principal)

(Surety)

(Principal)

(Attorney-in-fact)

NOTARY REQUIRED

ATTACH ACKNOWLEDGMENTS

APPENDIX F
Materials and Labor Bond

MATERIAL AND LABOR BOND

For Improvement of Subdivision Sewers

KNOW ALL MEN BY THESE PRESENT: THAT WE _____
(Subdivider) as Principal, and _____
(Bonding Company), organized and existing under the laws of the State of _____
and authorized to act as Surety in the State of California, as Surety, are held and firmly bound
unto the LEUCADIA WASTEWATER DISTRICT, in the just and full sum of _____
lawful money of the United States for the payment of which, well and truly made, we bind
ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally,
firmly and by these presents.

The conditions of the foregoing obligation is such that whereas said Principal has entered into or
is about to enter into the annexed agreement with the LEUCADIA WASTEWATER DISTRICT,
pursuant to the authority of the Wastewater District law of the State of California, for the
construction of sanitary sewer facilities within streets and easements offered for dedication on
the final map of subdivision of _____(Name of Subdivision)

or to be improved in connection with said subdivision, and whereas this bond is required by said
District in connection with the execution of said agreement.

NOW, THEREFORE, if the said Principal or the contractor or subcontractor of said
principal shall fail to pay for any materials, provisions, provender or other supplies or use of
implements or machinery used in, upon, for or about the performance of the work contracted to
be done, 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, or for any amounts required to
be deducted and withheld pursuant to Revenue and Taxation Code Section 18806, the said
Surety will pay the same to an amount not exceeding the sum specified in this Bond, and in case
suit is brought upon this Bond shall insure to the benefit of any and all persons, companies, and
corporations and their assigns shall have a right of action in any suit brought upon this Bond.

And the said Surety, for value received, thereby stipulates and agrees that no change,
extension of time, alteration or addition to the terms of the agreement or to the work or
improvements to be performed thereunder or to the plans or specifications attached to said
agreement shall in any ways affect its obligations on this bond, and it does hereby waive notice
of any such change, extension of time, alteration or additions to the terms of the agreement or to
the work or improvements or to the plans or specifications.

If any action is commenced on this bond by the District, in addition to the sum specified
above, the Surety, and its successors and assigns, jointly and severally, shall be obligated to pay
to the District all costs, attorney's fees and other litigation expenses incurred by the District in
collecting moneys due under the terms of this bond.

WITNESS OUR HANDS this _____ day of _____, _____.

(Principal)

(Surety)

(Principal)

(Attorney-in-fact)

NOTARY REQUIRED

ATTACH ACKNOWLEDGMENTS

APPENDIX G
Notice of Acceptance

**LEUCADIA WASTEWATER DISTRICT
NOTICE OF ACCEPTANCE**

NOTICE IS HEREBY GIVEN THAT:

The DISTRICT accepts the work of improvement described in the Dedication of Sewers dated:
_____, by:
_____.

The date of this acceptance is _____.

The name and address of the entity accepting ownership of the work of improvement is the LEUCADIA WASTEWATER DISTRICT (organized and existing under the Wastewater District Law, Division 12 of the Water Code), 1960 LA COSTA AVENUE, CARLSBAD, CALIFORNIA, 92009.

The property on which the work of improvement is located is:

(include address and legal description if available).

The work of improvement, but not including sewer service laterals, is described as:

_____.

The name of the surety is: _____.

DATED: _____

LEUCADIA WASTEWATER DISTRICT

By: _____
Its: General Manager

Notary Required

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APPENDIX H
Reimbursement Agreement

REIMBURSEMENT AGREEMENT

THIS AGREEMENT is entered into by and between the Leucadia Wastewater District, a County Water District, organized and existing under Division 12 of the California Water Code ("DISTRICT") and _____ ("DEVELOPER"), a California _____ (entity).

R-E-C-I-T-A-L-S

1. DEVELOPER owns property in San Diego County within the service jurisdiction of DISTRICT.

2. DEVELOPER desires service to its property from DISTRICT. As a condition of providing service, DISTRICT required that DEVELOPER extend existing facilities and/or oversize facilities to meet DISTRICT standards for sewer service and provide for service to other property owners within the area near DEVELOPER's property.

3. DEVELOPER has constructed facilities pursuant to DISTRICT direction and the Leucadia Wastewater District Agreement to Improve Subdivision Sewers dated _____, _____ ("Agreement to Improve Sewers") between DISTRICT and DEVELOPER as shown on the plans and specifications prepared by _____ and identified as _____.

4. DISTRICT and DEVELOPER, by this Agreement, desire to enter into a reimbursement contract in accordance with the provisions of the DISTRICT's Standard Specifications for Privately Constructed Wastewater Facilities ("Standard Specifications").

C-O-V-E-N-A-N-T-S

5. Conditions Precedent to Execution of Agreement. The sewer facilities subject to this Agreement ("new facilities") shall be completed in accordance with the Agreement to Improve Sewers and all other DISTRICT rules and regulations prior to execution of this Agreement. As a further condition precedent to DISTRICT's obligation to execute this Agreement, DEVELOPER agrees to provide in a form acceptable to DISTRICT all documents DISTRICT deems necessary for acceptance and acquisition of facilities that are intended for dedication to DISTRICT. Documents shall include, but are not limited to: Easements, grants of fee interests, subordination agreements and recorded notices of completion. Notices of completion shall be recorded by DEVELOPER.

6. Administrative Costs. Concurrent with execution of this Agreement, DEVELOPER shall pay the DISTRICT all administrative costs attributable to the establishment of this Agreement, including, but not limited to, engineering, legal and administrative staff time to calculate reimbursement amounts and finalized the terms of this Agreement. These Administrative costs shall not be reimbursed, and DEVELOPER shall not be required to pay the DISTRICT any additional administrative fees for this Agreement.

7. Reimbursable Costs. Reimbursable costs consist of the actual cost to design and construct the new facilities ("Project Costs"), less the portion attributable to providing sewer service to DEVELOPER's property ("Reimbursable Costs"), as determined by the DISTRICT and shown on Exhibit A ("Location Map") and Exhibit B ("Reimbursable Costs"), attached hereto. Reimbursable

Costs are limited to costs the DISTRICT has determined are reasonably related to new facilities.

8. Term. The term of this Agreement and DISTRICT's obligation to reimburse DEVELOPER shall expire ten (10) years from the Agreement's Effective Date. Thereafter, DISTRICT shall have no further obligation to reimburse DEVELOPER. During the last year of the initial Agreement term, DEVELOPER may request an extension of the Agreement term in accordance with the general District Ordinance governing reimbursement agreements, Ordinance 117, as may be amended from time to time. The request must be in writing and be received by the District at least ninety (90) days before the expiration date of the Agreement. The District will consider the request in good faith taking into consideration, among other things, whether DEVELOPER has complied with the terms of the AGREEMENT during the initial term, the administrative burden of prior reimbursement fee collection and distribution efforts, and the likelihood that additional reimbursement payments would be made during an extended term.

9. Reimbursement. During the ten (10) year term of this Agreement, and if extended, during the extended term of this Agreement, subject to DISTRICT's actual ability to collect such costs, DISTRICT shall charge property owners who utilize the new facilities their proportionate share of the Reimbursable Costs plus three percent (3%) interest per annum from the effective date of this Agreement ("Reimbursement Fee"). The Reimbursement Fee for each property owner has been determined by the DISTRICT, using its best estimate of the number of parcels and equivalent dwelling units ("EDUs") that could utilize the new facilities. The DISTRICT's determination of what properties will be subject to a Reimbursement Fee and the estimated amount each will be charged is set forth on Exhibit B. The DISTRICT shall also charge an administrative fee equivalent to 5% of the Reimbursement Fee charged to a property owner, which shall be paid to the DISTRICT. The Reimbursement Fee and administrative fee shall be in addition to the standard fees charged by the DISTRICT for new service. Reimbursement Fees actually collected shall then be distributed to DEVELOPER. Reimbursement Fees paid to the DISTRICT shall not accrue additional interest. Payment of interest to DEVELOPER shall be limited to interest received from property owners as part of their Reimbursement Fee. In the event DISTRICT reimburses DEVELOPER its share of the total Reimbursable Costs prior to the end of the Agreement term, DISTRICT's obligation to reimburse the DEVELOPER shall terminate.

10. Termination. In the event of termination of this Agreement, DEVELOPER shall have no further interest or right of reimbursement from DISTRICT and all revenues subsequently received by DISTRICT shall be the sole property of DISTRICT.

11. Records. DEVELOPER warrants that DEVELOPER has kept accurate records of the actual construction costs, according to accepted engineering and accounting principles. DEVELOPER has provided such records to the DISTRICT offices for inspection as requested by DISTRICT.

12. Warranties. DEVELOPER further warrants that there are no liens, stop notices or claims against the project; that the legal time for filing any such claims, notices or liens has expired; and agrees to defend, indemnify and hold DISTRICT harmless for any or all such liens, notices or claims.

13. Reimbursement Payments. Reimbursement checks shall be hand delivered or be mailed to DEVELOPER at the address provided pursuant to Paragraph 15.8 of this Agreement within ninety (90) days of receipt by DISTRICT. In the event a reimbursement check is not cashed

within ninety (90) days of hand delivery or mailing, it shall be deemed unclaimed and the DISTRICT shall have the right to retain the payment and shall have no further obligation to pay the DEVELOPER. Further, if a payment mailed to the most current address provided to the DISTRICT in accordance with Paragraph 15.8 is returned to the DISTRICT because the address is no longer valid and the DEVELOPER fails to provide a change of address in accordance with Paragraph 15.8 or personally appear at the DISTRICT office to claim the payment within an additional ninety (90) days, the DISTRICT shall have the right to retain the DEVELOPER's proportionate share and shall have no further obligation to pay DEVELOPER.

14. No Guarantees. DEVELOPER understands and acknowledges that that DISTRICT will not compel property owners to utilize the sewer facilities. Further DISTRICT cannot guarantee that DISTRICT will be able to collect Reimbursable Costs from all property owners who connect to the facilities. DISTRICT agrees to make reasonable efforts to collect costs from new connections. Further, DEVELOPER understands that the Reimbursement Fee calculated by DISTRICT may not reflect the number of properties that will ultimately utilize the sewer facilities. The number of users could be more or less than DISTRICT estimates, and DISTRICT does not warrant or promise that DEVELOPER will recover all Reimbursable Costs.

15. Miscellaneous Provision.

15.1 Applicable Law. This Agreement and any disputes relating to this Agreement shall be construed under the laws of the State of California.

15.2 Venue. In the event of any legal or equitable proceeding to enforce or interpret the terms or conditions of this Agreement, the parties agree that venue shall lie only in the federal or state courts in or nearest to the North County Judicial District, County of San Diego, State of California.

15.3 Attorney's Fees. In the event a lawsuit to enforce or interpret the terms of this Agreement is brought by either party, the prevailing party shall be entitled to all reasonable attorney's fees and costs in addition to any other relief granted by law.

15.4 Assignment. DEVELOPER shall not be entitled to assign all or any portion of its respective rights or obligations as specified in the Agreement without obtaining the prior written consent of the DISTRICT. Any purported assignment without the DISTRICT's prior written consent shall be void.

15.5 Entire Agreement. This Agreement, together with all exhibits attached hereto, contains all representations and the entire understanding regarding reimbursement between the parties. No other representations are intended or shall be implied. Any prior correspondence, memoranda or agreements, whether or not such correspondence, memoranda or agreements are in conflict with this Agreement, are intended to be replaced in total by this Agreement and any exhibits to this Agreement. However, this Agreement does not supersede other DISTRICT ordinances and agreements relating to DEVELOPER's construction of sewer facilities, including among other things, the DISTRICT Standard Specifications and the Agreement to Improve Sewers.

15.6 Personal Nature of Agreement and Binding Effect. This Agreement is personal and does not run with the land. The transfer or sale of any DEVELOPER property does not alter the DEVELOPER's right of reimbursement. Further the terms of this Agreement are binding

on all successors, heirs and assigns, and they must also comply with the terms of this Agreement, including provisions regarding assignment in Paragraph 15.4 and Notice in Paragraph 15.8.

15.7 Unenforceable Provision. The terms, conditions and covenants of this Agreement shall be construed whenever possible as consistent with all applicable laws and regulations. To the extent that any provisions of the Agreement as so interpreted are held to violate any applicable law or regulation, the remaining provisions shall nevertheless be carried into full force and effect and remain enforceable.

15.8 Notices. All reimbursements, letters, statements or notices required pursuant to this Agreement shall be deemed effective upon posting in the United States mail to the following addresses:

TO DISTRICT:

Attention: General Manager
Leucadia Wastewater District
1960 La Costa Avenue
Carlsbad, CA 92009

TO DEVELOPER:

Attention: _____

The addresses above shall be presumed correct, unless a party is notified in writing of a change. Any change of address notice shall clearly state that it is intended to replace the address set forth in Paragraph 15.8 of this Agreement. Further, notice of an address change shall not be valid unless it has been delivered personally to the DISTRICT or by way of certified mail that has been signed and acknowledged by the DISTRICT.

15.9 Effective Date. This Agreement and the Reimbursement Fees it authorizes shall become effective as of _____ ("*Effective Date*"), upon the adoption of a DISTRICT ordinance approving the Agreement and its execution by the parties.

"DISTRICT"

"DEVELOPER"

BY: _____

BY: _____

BY: _____

BY: _____

NOTARY REQUIRED

EXHIBIT A
REIMBURSEMENT AGREEMENT FOR _____
LOCATION MAP

EXHIBIT B
REIMBURSEMENT AGREEMENT FOR _____
REIMBURSEMENT TABLE

Development Property (Parcel A) Address:							
Project Cost: \$							
Reimbursable Costs: \$							
	Assessor Parcel No.	Zoning	Approx. Acres	Estimated EDU's	Share of Project Cost	Estimated Reimbursement Amount	Notes
A					\$	\$	
B					\$	\$	
C					\$	\$	
D					\$	\$	
E					\$	\$	
F					\$	\$	
G					\$	\$	
H					\$	\$	
I					\$	\$	
J					\$	\$	
K					\$	\$	
L					\$	\$	
Total							

Notes:

- (1) The Estimated Reimbursement Fee is calculated by dividing the Reimbursable Portion of the Project Costs by the assumed number of EDUs per parcel that could connect to the new facilities. Current calculations assume a total of ____eligible EDUs.
- (2) Reimbursement Fees shall include interest at the rate of three percent (3%) per annum from the Effective Date
- (3) Once a Reimbursement Fee has been paid, it is final and not subject to adjustment. However, if during the term of this Agreement, the number of eligible EDUs increases due to a parcel split or other circumstance, then the Reimbursement Fee may be adjusted for new connections by dividing the balance of unpaid Reimbursable Costs by the revised estimate of eligible EDUs that still could connect to the sewer system. Such adjustments shall only be made for new connections to the sewer system. No adjustments to past reimbursements will be made.

APPENDIX I

Application for Sewer Plan Check and Construction Permit

LEUCADIA WASTEWATER DISTRICT

APPLICATION FOR SEWER PLAN CHECK AND CONSTRUCTION PERMIT

Name of District: Leucadia Wastewater District
1960 La Costa Avenue
Carlsbad, Ca 92009
760-753-0155 Telephone
760-753-3094 Facsimile

Name of Applicant: _____

Address: _____

Assessor Parcel No.: _____

Telephone: _____ Email: _____

Name and/Or Description of Project: _____

Project Location: _____

Contractor: _____

Address: _____

Telephone: _____ Email: _____

Engineer: _____

Address: _____

Telephone: _____ Email: _____

Signature of Applicant: _____

Dated: _____

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APPENDIX J
Consent to Annexation
To Leucadia Wastewater District Form

**CONSENT TO ANNEXATION
TO
LEUCADIA WASTEWATER DISTRICT
(Reference: Section 56261, Government Code)**

Each of the undersigned represents that he (she) is the owner of the property described opposite his (her) name and hereby consents to the annexation of said property to the above named district and further consents to the annexation thereof subject to the following conditions:

Payment to the Leucadia Wastewater District of \$_____, as a lump sum payable upon initiation of preliminary proceedings of annexation for the right of use of all the existing property, real and personal, of the Leucadia Wastewater District.

Note: Forms must be signed and dated by the property owners.

Date	Name	Address	Property Description or County Assessor's Parcel Number (Attach description if necessary)

INTENTIONALLY LEFT BLANK

APPENDIX K
LAFCO Change of Organization or
Reorganization Application

SAN DIEGO LOCAL AGENCY FORMATION COMMISSION
CHANGE OF ORGANIZATION OR REORGANIZATION APPLICATION

The **following information must be submitted** when filing a change of organization or reorganization proposal with the San Diego Local Agency Formation Commission (LAFCO); additional information may be requested during review of the proposal.

- 1. **Completed CHANGE OF ORGANIZATION OR REORGANIZATION APPLICATION.**
- 2. (a) A **certified resolution of application** from an affected city or district; **or**
(b) A **landowner or registered voter petition** making application to San Diego LAFCO (available from LAFCO or <http://www.sdlafco.org/forms/petition.pdf>).
- 3. A **metes-and-bounds legal description of the proposal territory perimeter** for the proposed boundary change(s), a **reproducible parcel/plat map**, and a **vicinity map**. For information about mapping requirements, refer to: http://www.sdlafco.org/forms/legal_description.pdf, and contact the County Assessor's Mapping Division at 619/531-5588. The Thomas Brother's Guide may be used for the vicinity map.
- 4. **Environmental documentation** to comply with the California Environmental Quality Act (CEQA); submit documents for applicable category only:
 - (a) INITIAL STUDY: Submit completed form (available from LAFCO) if no environmental review has been conducted;
 - (b) CATEGORICAL EXEMPTION: Submit document if an agency has certified that the project qualifies for a categorical exemption from CEQA;
 - (c) NEGATIVE DECLARATION (ND): Submit document with certifying resolution and Initial Study*;
 - (d) ENVIRONMENTAL IMPACT REPORT (EIR): Submit 15 copies of the Final EIR and certifying resolution, plus one copy of the EIR Appendix*.

* For an ND or EIR, a copy of the receipt for the fee paid to the California Department of Fish and Game must be submitted.
- 5. If annexation to a city is proposed, submit one copy of the **city resolution approving rezoning and general plan land-use designations** for the proposal territory.
- 6. **JURISDICTIONAL CONFLICTS:** If the response to question number 6 on page 3 is "Yes", complete and sign the Policy L-107 form at http://www.sdlafco.org/forms/Legislative_Policy_L_107.pdf.
- 7. **Completed CAMPAIGN CONTRIBUTION DISCLOSURE FORM AND EVALUATION CHECKLIST for DISCLOSURE OF POLITICAL EXPENDITURES** (pages 7 and 8 of application).
- 8. **PROPERTY-OWNER CONSENT FORM FOR INCLUSION OF PROPERTY** (page 9 of application).
- 9. Completed **SUBJECT AGENCY SUPPLEMENTAL INFORMATION FORM** (pages 10-12 of application) from **each** subject agency.
- 10. **LAFCO processing fees.** The San Diego LAFCO FEE SCHEDULE is available at <http://www.sdlafco.org/document/feeschedule.pdf>, or contact LAFCO staff.

SAN DIEGO LOCAL AGENCY FORMATION COMMISSION
9335 Hazard Way · Suite 200 · San Diego, CA 92123
(858) 614-7755 · www.sdlafco.org

CHANGE OF ORGANIZATION OR REORGANIZATION APPLICATION

The information in this application is used by LAFCO staff to evaluate proposals for changes of government organization. Please respond to **all** items in this form, indicating "NA" when an item does **not** apply.

SUBJECT AGENCY(IES) (City or Special District)	PROPOSED CHANGE OF ORGANIZATION/ACTION (Annexation, detachment, sphere amendment, etc.)
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____

As part of this application, the City of _____ or the _____ District, _____ (the applicant), and/or the _____ (real party in interest): subject landowner and/or registered voter agrees to defend, indemnify, hold harmless, and release the San Diego LAFCO, its agents, officers, attorneys, and employees from any claim, action, or proceeding brought against any or all of them, the purpose of which is to attack, set aside, void, or annul San Diego LAFCO's review, approval or denial of this application or adoption of or refusal to adopt the environmental document which accompanies it or any other action San Diego LAFCO takes with respect to this application. This defense and indemnification obligation shall include, but not be limited to, attorneys' fees, expert witness fees and other costs of defense, damages, costs, and expenses, including attorney fees payable to another party. Applicant and/or real party in interest agree that San Diego LAFCO shall have the right to appoint its own counsel to defend it and conduct its own defense in the manner it deems in its best interest and that San Diego LAFCO's taking such action does not limit the obligations to indemnify and reimburse San Diego LAFCO's defense costs. This defense and indemnification obligation shall apply whether or not there is concurrent passive or active negligence on the part of the San Diego LAFCO, its agents, officers, attorneys, or employee. The person signing this application will be considered the proponent for the proposed action(s) and will receive all related notices and other communications. San Diego LAFCO's acceptance of this application is sufficient to make this agreement a binding, bilateral contract between us.

I acknowledge that annexation to the city of _____ or the _____ district may result in the imposition of taxes, fees and assessments **existing within the (city or district)** on the effective date of annexation. I hereby waive any rights I may have under Articles XIII C and XIII D of the State Constitution (Proposition 218) to a hearing, assessment ballot proceeding or an election on those **existing taxes, fees and assessments**.

Agreed:

Signature: _____ Date: _____

Print/Type Name: _____

Address: _____

_____ Telephone: () _____

Property Address: _____

Cross Street(s): _____

Assessor Parcel Number(s): _____ Acres: _____

Indicate below if anyone, in addition to the person signing this application, is to receive notices of these proceedings.

Name: _____

Address: _____

_____ Telephone: () _____

A. PROPOSAL DESCRIPTION/JUSTIFICATION

1. Explain in detail why the proposal is necessary **at this time** (e.g., condition of an approved tentative map, an existing structure requires new services, etc.). _____

2. Describe the use of **developed** property within the proposal territory, including details about existing structures. Describe anticipated development of **vacant** property, including types of buildings, number of units, supporting facilities, etc., and when development is scheduled to occur. _____

3. Describe the topography and physical features of the proposal territory, as well as its general location in relation to communities, major freeways/highways, roads, etc. _____

4. How many residents live within the proposal territory? _____
5. How many of these residents are registered voters? _____
6. Are there any jurisdictional issues associated with the LAFCO proposal or pending LAFCO action?
 NO YES (If yes, please complete the Policy L-107 form at http://www.sdlafco.org/forms/Legislative_Policy_L_107.pdf)

B. LAND USE INFORMATION

GENERAL PLAN AND ZONING:

If the proposal territory is **not** within an incorporated city, San Diego County General Plan and zoning information may be obtained by calling (858) 565-5981 or toll-free (888) 267-8770 with the Assessor Parcel Number(s) of the subject property. If the proposal territory is within a city, please call the appropriate city's planning department for General Plan and zoning information.

1. COUNTY:
 - (a) The territory is within the _____ community plan.
 - (b) The County General Plan or community plan designation and allowed density: _____

 - (c) Current County zoning and allowed density: _____

2. CITY:

(a) The territory is within the general plan area for the City of _____

(b) The City General Plan land use designation and allowed density: _____

(c) Current City zoning and allowed density: _____

(d) Current City rezoning and allowed density: _____

3. Indicate below **all** permits or approvals that will be needed by the County or any city to complete the project. If already granted, please note the date of approval and attach a copy of each resolution of approval. If approval is pending, please note the anticipated approval date.

Type of Approval or Permit	File No.	Approval Date	Is Resolution Attached?
Tentative Subdivision Map			<input type="checkbox"/> YES <input type="checkbox"/> NO
Tentative Parcel Map			<input type="checkbox"/> YES <input type="checkbox"/> NO
Major Use Permit			<input type="checkbox"/> YES <input type="checkbox"/> NO
City/County General Plan Amendment			<input type="checkbox"/> YES <input type="checkbox"/> NO
City Rezoning			<input type="checkbox"/> YES <input type="checkbox"/> NO
County Rezone			<input type="checkbox"/> YES <input type="checkbox"/> NO
(Other)			<input type="checkbox"/> YES <input type="checkbox"/> NO

4. Describe the land uses surrounding the proposal territory (e.g., residential, commercial, agricultural, industrial, open space, etc.).

North: _____ East: _____

South: _____ West: _____

5. Indicate with a if any portion of the proposal territory contains the following:

_____ Agricultural land uses _____ Agricultural Preserve

_____ Open Space Easement _____ Slopes greater than 25%

_____ Sewer moratorium area _____ Coastal Permit Zone

_____ Unusual features such as: _____

6. For city annexation proposals: Is any part of the proposal territory under a Williamson Act contract? If yes, please contact the LAFCO office for special instructions regarding petition/resolution of application requirements. YES NO

C. PUBLIC SERVICES INFORMATION

SEWER SERVICE:

1. (a) Is the proposal territory within a district or city that provides public sewer service? YES NO
(b) **If yes**, which agency? _____
2. (a) Is a developed parcel in need of annexation due to failed septic system? YES NO
(b) **If yes**, include a copy of any letters from the San Diego County Department of Environmental Health or private septic-system company.
(c) **If no**, is annexation for sewer service part of this application? YES NO
3. If annexation for sewer service is proposed, which district or city would serve the territory if this jurisdictional change is approved? _____
4. (a) Has the agency that will be providing service issued a letter of sewer availability? YES NO
(b) **If yes**, please provide a copy of the letter with this application. (This documentation should be completed by the agency no longer than 6 months prior to submittal to LAFCO.)
5. (a) Will the agency be prepared to furnish sewer service upon annexation? YES NO
(b) **If no**, please explain: _____

WATER SERVICE:

1. (a) Is the proposal territory within a district or city that provides public water service? YES NO
(b) **If yes**, which agency? _____
2. Is a well or other on-site water system currently used on the property? YES NO
3. Is an on-site system proposed to be used when the property is developed? YES NO
4. (a) Is annexation for water service part of this application? YES NO
(b) **If yes**, which district or city would serve the territory if this jurisdictional change is approved? _____
(c) Will the agency that will be providing service be prepared to furnish water service upon annexation? YES NO
5. (a) Has the agency that will be providing service issued a letter of water availability? YES NO
(b) **If yes**, please provide a copy of the letter with this application. (This documentation should be completed by the agency no longer than 6 months prior to submittal to LAFCO.)

FIRE PROTECTION SERVICES: NOTE: Complete the following section **only** if annexation to a fire protection service provider is proposed—or if the current fire protection service provider is proposed to change.

1. (a) Is the proposal territory **currently** within an agency that provides fire protection? YES NO

(b) **If yes**, provide name and address/location of current fire service provider

(c) Provide estimated response times to the proposal territory:

priority _____ minutes; non-priority _____ minutes

2. Is annexation for fire protection service part of this application? YES NO

3. Which city or district would serve the proposal territory if this jurisdictional change is approved?

(a) Location/address of the proposed fire service provider: _____

(b) Estimated response times to the proposal territory:

Priority _____ minutes; non-priority _____ minutes

POLICE PROTECTION SERVICES: NOTE: Complete the following section **only** if the police protection provider is proposed to change.

1. Which police agency **currently** serves the proposal territory?

(a) Location/address of nearest police station: _____

(b) Estimated response times to the proposal territory: priority _____ minutes; non-priority _____ minutes

2. Which police agency would serve the proposal territory if this jurisdictional change is approved?

(a) Location/address of nearest police station: _____

(b) Estimated response times to the proposal territory:

Priority _____ minutes; non-priority _____ minutes

CAMPAIGN CONTRIBUTION DISCLOSURE PROVISIONS

LAFCOs are subject to the campaign disclosure provisions detailed in Government Code Section 84308, and the Regulations of the Fair Political Practices Commission (FPPC), Section 18438.

Please carefully read the following information to determine if the provisions apply to you. If you determine that the provisions are applicable, the Campaign Disclosure Form must be completed and returned to San Diego LAFCO with your application.

1. No LAFCO commissioner shall accept, solicit, or direct a contribution of more than \$250 from any party¹ or agent² while a change of organization proceeding is pending, and for three months subsequent to the date a final decision is rendered by LAFCO. This prohibition commences when your application has been filed, or the proceeding is otherwise initiated.

2. A party to a LAFCO proceeding shall disclose on the record of the proceeding any contribution of more than \$250 made to any commissioner by the party, or agent, during the preceding 12 months. No party to a LAFCO proceeding, or agent, shall make a contribution to a commissioner during the proceeding and for three months following the date a final decision is rendered by LAFCO.

3. Prior to rendering a decision on a LAFCO proceeding, any commissioner who received contribution of more than \$250 within the preceding 12 months from any party, or agent, to a proceeding shall disclose that fact on the record of the proceeding, and shall be disqualified from participating in the proceeding. However, if any commissioner receives a contribution that otherwise would require disqualification, and returns the contribution within 30 days of knowing about the contribution and the relevant proceeding, that commissioner shall be permitted to participate in the proceeding.

¹ "Party" is defined as any person who files an application for, or is the subject of, a proceeding.

² "Agent" is defined as a person who represents a party in connection with a proceeding. If an individual acting as an agent also is acting as an employee or member of a law, architectural, engineering, or consulting firm, or a similar entity or corporation, both the individual and the entity or corporation are agents. When a closed corporation is a party to a proceeding, the majority shareholder is subject to these provisions.

To determine whether a campaign contribution of more than \$250 has been made by you or your agent to a commissioner within the preceding 12 months, all contributions made by you or your agent during that period must be aggregated.

Names of current LAFCO commissioners are available at <http://www.sdlafco.org/document/CommRoster.pdf>. If you have questions about Government Code Section 84308, FPPC regulations, or the Campaign Disclosure Form, please contact San Diego LAFCO at 9335 Hazard Way, Suite 200, San Diego, CA 92123, (858) 614-7755.

CAMPAIGN CONTRIBUTION DISCLOSURE FORM

(a) Proposed change(s) of organization: _____

(b) Name and address of any party, or agent, who has contributed more than \$250 to any commissioner within the preceding 12 months:

- 1. _____

- 2. _____

(c) Date and amount of contribution:

Date _____ Amount \$ _____
Date _____ Amount \$ _____

(d) Name of commissioner to whom contribution was made:

- 1. _____
- 2. _____

(e) I certify that the above information is provided to the best of my knowledge.

Printed Name _____

Signature _____

Date _____ Phone _____

To be completed by LAFCO:

Proposal:

Ref. No.

DISCLOSURE OF POLITICAL EXPENDITURES

Effective January 1, 2008, expenditures for political purposes, which are related to a change of organization or reorganization proposal that will be or has been submitted to LAFCO, are subject to the reporting and disclosure requirements of the Political Reform Act of 1974 and the Cortese-Knox-Hertzberg Act of 2000.

Please carefully read the following information to determine if reporting and disclosure provisions apply to you.

- Any person or combination of persons who, for political purposes, directly or indirectly contributes \$1,000 or more, or expend \$1,000 or more in support of, or in opposition to a proposal for a change of organization or reorganization that will be submitted to the Commission, shall disclose and report to the Commission to the same extent and subject to the same requirements of the Political Reform Act of 1974 (Government Code Section 81000 et seq.) as provided for local initiative measures, and Section 56700.1 of the Cortese-Knox-Hertzberg Act of 2000.
- Pursuant to Government Code Section 57009, any person or combination of persons who directly or indirectly contributes \$1,000 or more, or expends \$1,000 or in support of, or in opposition to, the conducting authority proceedings for a change of organization or reorganization, must comply with the disclosure requirements of the Political Reform Act of 1974, (Government Code section 81000 et seq.). Applicable reports must be filed with the Secretary of State and the appropriate city or county clerk. Copies of the report must also be filed with the Executive Officer of San Diego LAFCO.
- A roster of current San Diego LAFCO commissioners is available from the LAFCO office: 9335 Hazard Way, Suite 200, San Diego, CA 92123, (858) 614-7755, or from <http://www.sdlafco.org/document/CommRoster.pdf>

EVALUATION CHECKLIST FOR DISCLOSURE OF POLITICAL EXPENDITURES

The following checklist is provided to assist you in determining if the requirements of Government Code Sections 81000 et seq. apply to you. For further assistance contact the Fair Political Practices Commission at 428 J Street, Suite 450, Sacramento, CA 95814, (866) 275-3772 or at <http://www.fppc.ca.gov>.

1. Have you directly or indirectly made a contribution or expenditure of \$1,000 or more related to the support or opposition of a proposal that has been or will be submitted to LAFCO?

Yes

No

Date of contribution _____ Amount \$ _____

Name/Ref. No. of LAFCO proposal _____

Date proposal submitted to LAFCO _____

2. Have you, in combination with other person(s), directly or indirectly contributed or expended \$1,000 or more related to the support or opposition of a proposal that has been or will be submitted to LAFCO?

Yes

No

Date of contribution _____ Amount \$ _____

Name/Ref. No. of LAFCO proposal _____

Date proposal submitted to LAFCO _____

3. If you have filed a report in accordance with FPPC requirements, has a copy of the report been filed with San Diego LAFCO?

Yes

No

PROPERTY-OWNER CONSENT FORM FOR INCLUSION OF PROPERTY

Note: Processing of jurisdictional boundary change proposals, which involve **uninhabited**¹ territory, can be expedited by approximately 60 days if all affected landowners consent to the proposal. If you wish to take advantage of this option, please return the completed PROPERTY-OWNER CONSENT FORM FOR INCLUSION OF PROPERTY to San Diego LAFCO with your application for a jurisdictional boundary change. If consenting signatures of **100%** of the affected property owners are affixed and LAFCO does not receive any opposition from subject agencies, the Commission may consider the proposal without public notice, public hearing and/or an election.

¹ Territory included within a proposed boundary change that includes less-than 12 registered voters is considered **uninhabited** (Government Code 56045).

The undersigned owners(s) of property hereby consent(s) to inclusion of that property within a proposed change of organization or reorganization consisting of:

(Please list all proposed actions)

Annexation to: 1. _____
2. _____
3. _____

Detachment from: 1. _____
2. _____
3. _____

<u>Date</u>	<u>Signature</u>	<u>Assessor's Parcel Number(s)</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

Attach additional sheets if necessary

SUBJECT AGENCY SUPPLEMENTAL INFORMATION FORM

NOTE: A copy of this form must be completed and signed by **each** local agency that will gain or lose territory as a result of the proposed jurisdictional boundary change. Attach additional sheets if necessary.

Signature of agency representative

Print name

Title

Telephone

Date

A. JURISDICTIONAL INFORMATION:

Name of agency:

1. Is the proposal territory within the agency's sphere of influence? Yes No

2. Upon annexation, will the proposal territory be included within an assessment district and be subject to assessment for new or extended services? Yes No

3. Does the agency have plans to establish any new assessment district that would include the proposal territory? Yes No

4. Will the proposal territory assume any existing bonded indebtedness? Yes No

If yes, indicate any taxpayer cost: \$ _____

5. Will the proposal territory be subject to any special taxes, benefit charges, or fees? Yes No

If yes, please provide details of all costs: _____

6. Is the agency requesting an exchange of property tax revenues as a result of this proposal? Yes No

7. Is this proposed jurisdictional change subject to a master property tax agreement or master enterprise district resolution? Yes No

8. FOR CITY ANNEXATIONS: Does the proposal territory contain existing commercial development that generates retail sales of ten million dollars or more per year? Yes No

9. FOR CITY ANNEXATIONS: If any part of the proposal territory is under a Williamson Act contract, please contact the LAFCO office for special instructions regarding petition or resolution of application requirements.

EXPEDITED PROPOSAL PROCESSING: Processing of jurisdictional boundary change proposals can be expedited by approximately 60 days if all affected landowners consent to the waiver of protest and termination (conducting authority) proceedings and subject agencies do not oppose the waiver. If you do NOT want to waive these proceedings, then attach a written statement to the subject agency information form containing a signature, date, and declaration of opposition to a waiver of such proceedings.

B. SEWER SERVICE:

1. What is the agency's current wastewater treatment capacity (expressed in million gallons per day and equivalent dwelling units)? _____

2. What is the average volume of influent currently being treated by the agency (expressed in million gallons per day and equivalent dwelling units)? _____

3. (a) What is the agency's peak flow volume (expressed in million gallons per day)?

(b) What is the agency's peak flow capacity (expressed in million gallons per day)?

(c) Has the agency exceeded the flow (peak) capacity within the past two years?

(d) **If yes**, please describe the frequency and volume of incidents that exceeded the agency's peak capacity: _____

YES NO

4. (a) Has the agency issued a letter of sewer availability for the proposal territory?

YES NO

(b) **If yes**, please provide a copy of the letter. (This documentation should be completed by the agency no longer than 6 months prior to submittal to LAFCO.)

5. (a) How many future equivalent dwelling units have been reserved or committed for proposed projects? _____

(b) Can all projects that have received commitments of sewer availability (e.g., "will serve letters") be accommodated with planned capacity?

YES NO

6. (a) Does the agency have the necessary contractual and/or operational treatment capacity to provide sewer service to the proposal territory?

YES NO

(b) **If yes**, please specify the proposal territory's estimated sewer demand and the agency's available sewer capacity (expressed in million gallons per day and equivalent dwelling units):

(c) **If no**, please describe the agency's plans to upgrade capacity to resolve any capacity related issues: _____

7. Will the proposal territory be annexed to a sewer improvement district?

YES NO

8. (a) The distance for connection of the proposal territory to the agency's existing sewer system is _____ feet.

(b) Describe the location of the connection to the agency's existing sewer system:

C. WATER SERVICE:

1. (a) Does the subject agency have adequate water supply and sufficient contractual and/or operational capacity available to serve the proposal territory? YES NO

(b) **If yes**, describe the proposal territory's estimated water demand and the agency's available water supply and capacity (expressed in acre-feet or million gallons per day):

(c) **If no**, what plans does the agency have to increase its water capacity?

2. Specify any improvements (on and off-site) that will be necessary to connect and serve the anticipated development. Indicate the total cost of these improvements and method of financing (e.g., general property tax, assessment district, landowner or developer fees): YES NO

3. (a) Has the agency issued a letter of water availability for the proposal territory? YES NO

(b) **If yes**, please provide a copy of the letter. (This documentation should be completed by the agency no longer than 6 months prior to submittal to LAFCO.)

4. (a) The distance for connection of the proposal territory to the agency's existing water system is _____ feet.

(b) Describe the location of the connection to the agency's existing water system:

5. (a) Is the agency currently under any drought-related conditions and/or restrictions? YES NO

(b) **If yes**, describe the conditions and specify any related restrictions:

6. (a) Will the proposal territory utilize reclaimed water? YES NO

(b) **If yes**, describe the proposal territory's reclaimed water use and the agency's available reclaimed water supply and capacity (expressed in acre-feet or million gallons per day):

(c) The distance for connection of the proposal territory to the agency's existing reclaimed water system is _____ feet.

(d) Describe the location of the connection to the agency's existing reclaimed water system: _____

(e) **If no**, has the agency considered availability of reclaimed water to the proposal territory? YES NO

(f) What restrictions prevent use of reclaimed water? _____

7. Will the proposal territory be annexed to an improvement district? YES NO

APPENDIX L
Typical Project Checklist

**LEUCADIA WASTEWATER DISTRICT
TYPICAL PROJECT CHECKLIST**

	PROJECT NAME/LOCATION CODE	
	NUMBER OF UNITS/TYPE	
	OWNER INFORMATION	
	ASSESSOR PARCEL (S)	
	ACTION	DATE AND/OR COMMENTS
1	Plans Submitted	
2	Plan Check Application Received	
3	Plan Check Fees Paid	
4	Plan Check Received by District Engineer	
5 *	Bond Estimate Submitted	
6 *	Easement Plat & Legal Description Received for Review	
7 *	Preliminary Title Report Received	
8 *	Subordination Submittal	
9 *	Quitclaim Submittal	
10 *	Project Mylars Signed and Bond Estimate Approved	
11 *	Easement Plat & Legal Description Approved	
12 *	Subordinations Returned	
13 *	Quitclaim Approved	
14 *	Easement, Subordinations, Quitclaims Recorded	
15 *	Any Supplemental Agreements Recorded	
16 *	Title Insurance Provided for Easements	
17 *	Agreement to Improve Sewers Executed	
18 *	Performance, Material & Labor Bonds Received	
19 *	Inspection Deposit Paid	
20 *	Construction Started	
21 *	Field Acceptance Letter Submitted	
22	As-Builts Signed	
23 *	Dedication of Sewers Filed	
24 *	Notice of Completion Recorded	
25 *	Notice of Acceptance Filed	
26	Refund or Balance Due Deposits	
27 *	Reduce Performance Bond to 75%	
28 *	Exonerate Material & Labor Bond	
29 *	Satisfactory 1-Year Warranty Period	
30 *	Exonerate last 25% of Performance Bond	

* Item applies to project if required by District

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APPENDIX M
Notice of Completion

RECORDING REQUESTED BY
AND WHEN RECORDING MAIL TO:

Name Leucadia Wastewater District
Street Address 1960 La Costa Avenue
City & State Carlsbad, CA 92009

SPACE ABOVE THIS LINE FOR RECORDER'S USE

NOTICE OF COMPLETION

Notice pursuant to Civil Code Section 9204, must be filed within 15 days after completion.

Notice is hereby given that:

1. The full name of the owner is: _____

2. The address of the owner is: _____

3. The nature of the property interest or estate of the owner is: _____

4. A description of the site sufficient for identification is: _____
(Include the street address if any and city, county and state)

5. The name of the original contractor is: _____

6. The kind of work done or materials furnished pursuant to the contract is: _____

7. The names and addresses of all persons, if any, who hold an interest or estate with the owner as joint tenants or as tenants in common are:

(Name/Address)

(Name/Address)

(Name/Address)

(Name/Address)

8. The full names and full addresses of the predecessors in interest of the owner if the property was transferred after the work or improvement referred to in this notice began:

(Name/Address)

(Name/Address)

(Name/Address)

9. The work of improvement, described in Paragraph 6, on the property was completed on _____ (date).

Dated: _____

(Owner's Name)

By _____
(Signature)

VERIFICATION

I, the undersigned, say:

I am the _____

(Owner, officer of owning entity, agent of owner, etc.)

of the interest or estate, described in Paragraph 3, of the property, described in Paragraph 4; I have read the foregoing notice and know and understand the contents of it, and the facts stated in it are true and correct.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on _____, _____, (date)

at _____
(Place where signed)

(Personal signature)

NOTARY REQUIRED

CERTIFICATE OF MAILING

I hereby declare that, pursuant to the requirements of Civil Code §3259.5, I sent notification of recordation of the attached Notice of Completion to the below-listed person or entity on _____, 20__. Furthermore, I declare that this notice of recordation was sent by [registered mail, certified mail or first class mail]. The notice of recordation was provided within 10 days of recordation of the Notice of Completion:

(Name/Address from Preliminary 20-Day Notice or from contract with Original Contractor)

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct.

Signed at: _____
(Location)

on _____
(Date)

Signature of person making service

[It is advisable to use the Postal Service's Return Receipt Requested service. Under Civil Code §3259.5, failure to provide notification of recording of the Notice of Completion within 10 days extends the time within which a mechanic's lien may be recorded or a stop notice served to 90 days beyond the date the Notice of Completion was recorded. Notification is evidenced by a certificate of mailing.]

[Prepare one Proof of Service for each person served.]

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APPENDIX N
Dedication of Sewers Form

**LEUCADIA WASTEWATER DISTRICT
DEDICATION OF SEWERS**

NOTICE IS HEREBY GIVEN THAT:

The undersigned Owners hereby dedicate (DEDICATION) the hereinafter described project (work of improvement) for acceptance by the LEUCADIA WASTEWATER DISTRICT.

The date of this DEDICATION is _____.

The names and addresses of all Owners, of the hereinafter described project, are:

_____.

We, the Owners, hereby declare that the sanitary sewers and appurtenance structures, not including sewer service laterals, at (name and/or description of the project)

_____,
constructed in accordance with the approved plans filed with the LEUCADIA WASTEWATER DISTRICT (organized and existing under the Wastewater District Law, Division 12 of the Water Code), 1960 LA COSTA AVENUE, CARLSBAD, CALIFORNIA, 92009 are built for public use and that upon their acceptance by said District, all right, title, and interest of the undersigned in and to said sewers and appurtenances shall vest in said District.

The property on which the hereinafter described work of improvement was completed is:

(include address and legal description if available)

The work of improvement being dedicated is described as:

_____.

This DEDICATION is subject to final acceptance of the work by the District, and until such acceptance, shall be deemed an irrevocable offer to dedicate the work of improvement to the District.

Owners expressly warrant and represent that they have the power to dedicate these sewer facilities.

This DEDICATION runs with the land and is binding on all future owners of the property on which the work of improvement is located. Owners shall ensure that any transfer of the property, or any portion thereof, from them to a new owner shall include notice of this DEDICATION.

APPENDIX O
Temporary Service Agreement

LEUCADIA WASTEWATER DISTRICT
TEMPORARY SERVICE AGREEMENT

This Temporary Service Agreement ("Agreement") is entered into by and between Leucadia Wastewater District ("District"), and _____, ("Subdivider").

RECITALS

A. Subdivider and District have entered into the following agreement that provides for construction of public and private sewer facilities ("Sewer Facilities"), which will be connected to the public sewer system: Leucadia Wastewater District Agreement to Improve Subdivision Sewers dated _____ ("Improvement Agreement").

B. The Improvement Agreement and District's Standard Specifications for privately constructed wastewater facilities ("Standard Specifications") generally provide that sewer facilities not be connected to the public sewer system until after final acceptance.

C. Subdivider has partially completed construction of its Sewer Facilities and desires, prior to final acceptance, to utilize the Sewer Facilities on a temporary and conditional basis, to service residential homes that have been constructed at the following locations ("Subject Homes"):

D. Subdivider is the owner of the properties on which the Subject Homes are located.

E. District is willing to authorize connection of Sewer Facilities for the Subject Homes to the public sewer system in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, the parties agree as follows:

District grants and Subdivider accepts a temporary and conditional authorization to connect the Sewer Facilities for the Subject Homes to the public sewer system in accordance with the following terms and conditions:

1. Sewer Facilities for the Subject Homes shall be constructed in accordance with the District's Standard Specifications and, in addition, include the additional design features and all safety and filtering devices specified by District staff on **Exhibit A** attached hereto. If connection of the Sewer Facilities requires use of facilities not yet accepted by the District that are on properties not part of the development being constructed by Subdivider, then all additional facilities must comply with design and safety guidelines imposed by District staff and all property owners must agree to be bound by and comply with the terms and conditions of this Agreement with respect to facilities on their respective properties. In the alternative, the

property owners may enter into a license agreement for use of their facilities, provided it is approved by the District and made an exhibit that is incorporated into this Agreement.

2. [IF APPLICABLE] Subdivider has entered into a license agreement that has been approved by the District in accordance with Section 1 above ("License Agreement"). A true and correct copy of the License Agreement is attached as **Exhibit B** and is incorporated herein as though set forth in full.

3. Subdivider shall be responsible for inspection and maintenance of all safety and filtering devices installed as a condition of this Agreement. Subdivider shall ensure that the system is inspected and maintained with sufficient frequency to avoid spills and/or damage or obstruction of the system. If Subdivider fails to inspect and/or maintain the Sewer Facilities in accordance with the terms of this Agreement, District shall have the right, but not obligation, to conduct its own inspections and take any corrective action it deems necessary to protect the public health and safety.

4. This Agreement only authorizes connection of the Subject Homes to the public sewer system. Expansion of the temporary service connection to any other properties with sewer facilities that have not been granted final acceptance and approval by the District shall be a violation of this Agreement and result in its revocation. Expansion of the temporary service connection shall only be allowed if approved by way of a separate Temporary Service Agreement, which the District may, in its sole and absolute discretion, approve, disapprove or condition as it deems appropriate.

5. This Agreement does not constitute final acceptance of any Sewer Facilities by the District. Subdivider shall retain ownership of the Sewer Facilities and be solely responsible for their operation, maintenance, and repair until such time as the Sewer Facilities have received final approval and, if appropriate, acceptance by the District.

6. During the term of this Agreement, Subdivider shall be solely responsible for any and all damage caused by construction or use of the Sewer Facilities including damage caused by spills and damage to District facilities and/or private property.

7. To the maximum extent permitted by law, Subdivider agrees to indemnify and defend the District, its board of directors, staff, consultants and agents from any and all claims, actions, causes of action or demands, related to or concerning construction, use, operation, maintenance or repair of the Sewer Facilities during the term of this Agreement with the exception of damages caused by the willful misconduct of the District, its Board of Directors, staff, consultants and agents. This indemnity obligation shall survive and remain in effect after termination of this Agreement, but only for claims that are based on events or occurrences prior to termination. The indemnity obligation shall terminate in its entirety one year after the Sewer Facilities are complete and have been accepted by the District pursuant to the Improvement Agreement.

8. District may terminate this Agreement, if it finds that its terms and conditions have been violated or if the District determines, in its sole and absolute discretion that continuation of the temporary service connection authorized by this Agreement creates a public health and safety concern or is not in the best interest of the District.

9. If this Agreement is terminated prior to final acceptance of the Sewer Facilities, Subdivider shall cause all Subject Homes to immediately cease use of the Sewer Facilities, and District shall have the right to install a service main plug or other appropriate device to prevent further connection of the Sewer Facilities to the public sewer system. If termination is due to a public health or safety concern, District may immediately terminate this Agreement and the Temporary Service Permit without notice if the District determines such action is necessary for the protection of public health and welfare. Otherwise, District shall provide Subdivider with at least 48 hours notice of its intent to terminate this Agreement. This Agreement may be terminated by either party, for any reason, by providing the other with thirty-day written notice. Regardless of the reason for termination, Subdivider shall be obligated to complete construction of the Sewer Facilities in accordance with all District rules, regulations, ordinances, guidelines and agreements, including the Standard Specifications and Improvement Agreement.

10. Final acceptance of the Sewer Facilities shall be conditioned upon removal of all temporary traps and filtering devices installed as a condition of this Agreement to the satisfaction of the District Engineer.

11. Subdivider shall, concurrent with execution of this Agreement, provide the District with a security deposit in the amount of _____ Dollars and 00\100s \$ (\$_____.00), which shall be used by the District as compensation for any costs it incurs as a result of a violation of this Agreement. The deposit shall not be used to cover the cost of standard inspections, which are governed by other rules, regulations and agreements. All, or the remaining portion of the security deposit not used to compensate the District for costs incurred as a result of a violation, shall be refunded to Subdivider after termination of the Temporary Service Permit.

12. This Agreement shall remain in full force and effect until one of the following occurs: (i) it is terminated by either party in accordance with this Agreement or (ii) the Sewer Facilities have received final approval and acceptance by the District, and Subdivider has removed all temporary filter and trapping devices within the sewer system required by this Agreement.

13. Except as expressly set forth in this Agreement, all District rules, regulations, ordinances and agreements relating to the Sewer Facilities, including the Standard Specifications and Improvement Agreement, apply to construction and use of the Sewer Facilities.

14. This Agreement runs with the land and shall be binding on both the Subdivider and any future owners of the properties on which the Subject Homes are located. Transfer of a Subject Home to a new owner shall not relieve Subdivider of its obligations with regard to that property and this Agreement. Until such time as this Agreement is terminated, Subdivider and any new owners of the Subject Homes shall remain jointly and severally responsible for compliance with all Agreement terms. Subdivider shall ensure that all new owners of Subject Homes have notice of this Agreement.

15. If any legal action or proceeding is brought by either party to enforce or interpret this Agreement, the prevailing party will be entitled to receive from the other party, in addition to any other relief granted, the reasonable attorney's fees, costs, and expenses incurred in the action or proceeding.

16. [USE IF A LICENSE AGREEMENT IS PART OF THE AGREEMENT] This Agreement is expressly contingent on the continued validity of the License Agreement attached as **Exhibit B**. Termination of the License Agreement for any reason, other than acceptance of the subject facilities by the District, shall constitute a material breach of this Agreement and be sufficient cause for its termination.

IN WITNESS WHEREOF, the parties hereto have entered into this Agreement on
the _____ day of _____, _____.

By: _____
"SUBDIVIDER" (Print name)

By: _____

LEUCADIA WASTEWATER DISTRICT "DISTRICT"

By: _____
LWD General Manager

NOTARY REQUIRED

APPENDIX P
Sewer Permit Agreement for
Garage Drain Connection

Recording requested by:)
 Leucadia Wastewater District)
)
 When recorded mail to:)
 Leucadia Wastewater District)
 1960 La Costa Avenue)
 Carlsbad, CA 92009-6810)
)
 For the benefit of the District)

SPACE ABOVE FOR RECORDERS USE ONLY

**LEUCADIA WASTEWATER DISTRICT
 SEWER PERMIT AGREEMENT
 UNDERGROUND STRUCTURE DRAIN CONNECTION**

_____, (*Owner Name as Set forth in Vesting Deed*) the
 Owner of real property commonly known as _____

 (*Property Name and Address*) and more particularly described on Exhibit A, attached hereto and
 incorporated herein (“Property”) hereby agrees to comply with the terms and conditions of this
 Agreement to Sewer Service Permit ("Agreement"). The Property includes an underground
 structure (“Underground Structure”) with a floor drain(s) which will drain to Leucadia Wastewater
 District (LWD) sewer via a pumped connection. The pumped flow rate is limited to 5 gpm
 (“Approved Flow Rate”). As such an additional 1.0 Equivalent Dwelling Unit (EDU) shall be
 purchased as a condition of the agreement.

Plans for the Underground Structure floor drain have been prepared by

 _____ (*Contact Information for Architect*).

Based on review of submittals and discussion, LWD requires the pumped connection for the
 Underground Structure floor drain to be installed as shown on
 the _____ (*Proposed Plans*) plans submitted for review and
 held on file at LWD, under the following conditions agreed hereto by the Owner.:

- 1) Owner agrees to provide Best Management Practices (BMP's) that maintain the
 Approved Flow Rate including, but not limited to proper maintenance of pumping facilities,
 valves, etc.
- 2) Owner agrees to provide BMP's that make every reasonable effort to keep oil,
 grease, chemicals, etc. from entering the sewer system, including removal and cleaning of grates,
 replacement of absorbent, etc. to the maximum extent possible;
- 3) The pump hour meter reading shall be logged on a monthly basis. Owner shall
 keep written records that must be made available to LWD upon request.
4. LWD reserves the right to make unannounced periodic checks to ensure that the
 BMPs and readings have occurred as agreed above. If oil, grease, chemicals, etc. occurs in the

downstream sewer as a result of discharges from the Underground Structure, then the cost of all related downstream maintenance provided by LWD will be charged to the Owner. Should unscheduled corrective action occur, LWD reserves the right to revise the maintenance schedule. Additionally, if readings indicate higher discharges of flow, additional EDUs will be assessed.

5. LWD reserves the right to revoke this Agreement for health and safety reasons and/or failure to comply with its terms.

6. Owner hereby agrees to hold harmless, defend and indemnify LWD, its officers, officials, employees, agents and consultants from and against any and all liability, loss, damage, expense, costs (including without limitation costs and fees of litigation) of every nature arising out of or in connection with the Underground Structure drain connection and related equipment authorized by this Agreement, except such loss or damage which was caused by the sole negligence or willful misconduct of an indemnified party.

7. This Agreement runs with the land. Should ownership of any portion of the Property or building thereon be transferred to one or more new Owners, the terms and conditions of this Agreement shall be binding on the new Owners.

8. Owners of individual units or buildings on the Property may designate an association, management company or individual to receive sewer service bills and take the actions required by this Agreement, but regardless of any such agreements, all owners of any portion of the Property and building or unit thereon, shall remain jointly and severally responsible for compliance with this Agreement and payment of all sewer service fees related to the Underground Structure drain connection.

AGREED AND ACCEPTED

Owner:

Signed

Date

NOTARY REQUIRED

APPENDIX Q
Quitclaim Deed and Release of Liability

Recording Requested by:)
 Leucadia Wastewater District)
)
 When Recorded, Mail To:)
 District Engineer)
 Leucadia Wastewater District)
 1960 La Costa Avenue)
 Carlsbad, CA 92009)
)
 When Recorded, Mail To:)
 Property Owner Name)
 Property Owner Address)

SPACE ABOVE FOR RECORDERS USE ONLY

QUITCLAIM DEED AND RELEASE OF LIABILITY

Assessor's Parcel
 No. _____

LWD Project Number _____

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, Leucadia Wastewater District (formerly Leucadia County Water District), Grantor, a governmental entity of the state of California hereby REMISES, RELEASES AND FOREVER QUITCLAIMS to Grantee, _____ (*name of property owner*), all of its easement rights and all other right, title and interest in the real property situated in the City of Carlsbad, County of San Diego, described in Exhibit "A" and depicted on Exhibit "B", attached hereto and incorporated herein by this reference.

This Deed is given specifically to release [a portion of the easement rights] the sewer easement granted by that certain easement document recorded on _____ as Document No. _____.

Grantee, _____ (*property owner*), hereby releases Leucadia Wastewater District, Grantor, from any and all liability arising directly or indirectly out of, or in any way connected with the area being quitclaimed by Grantor, and the pipelines and appurtenances located in the area being quitclaimed by Grantor. This release applies to all claims, known or unknown, and Grantee expressly waives the provisions of Civil Code Section 1542 which provides that a release does not generally apply to claims of which the releasor is not aware at the time the release is given. This release shall apply to any and all claims, demands, or losses arising after the date the instant Quitclaim Deed is recorded and shall be binding upon Grantee and their successors-in-interest.

GRANTEE:

DATED: _____ *Name of Property Owner* _____,

By: _____

Its: _____

GRANTOR:

DATED: _____ LEUCADIA WASTEWATER DISTRICT,
a California Governmental Entity

By: _____

Its: _____

NOTARY REQUIRED

APPENDIX R

Private Sewer Agreement for Multi-Unit Lateral

Recording requested by:)
Leucadia Wastewater District)

When recorded mail to:)
Leucadia Wastewater District)
1960 La Costa Avenue)
Carlsbad, CA 92009-6810)

SPACE ABOVE FOR RECORDERS USE ONLY

PRIVATE SEWER AGREEMENT FOR MULTI-UNIT LATERAL

Assessor's Parcel
No. _____

LWD Location Code _____

This Agreement is entered into by and between _____
_____ ("Owner") and the Leucadia Wastewater District,
a governmental entity ("LWD") with reference to the following facts:

A. Owner has fee title to the real property commonly known as
_____ (*Street Address*) and more particularly
described in Exhibit A, attached hereto and incorporated herein ("Property");

B. Owner desires an exception to the LWD Standard Spec that generally prohibits use
of one sewer lateral for multiple units, and LWD is willing to grant the exception, subject to the
terms and conditions of this Agreement,

NOW, THEREFORE, the parties, on behalf of themselves, their successors and assigns,
agree that the following covenants and conditions shall apply to the Property, subsequent owners
of the Property and any portion of the Property, regardless of whether it is divided or sold to one
or more owners:

1) Ownership and maintenance obligations of all privately-owned sewer pipes
and equipment serving, or constructed within, the Property, including, but not limited to, multi-
unit sewer laterals, gravity laterals and the physical connection to the public collection sewer
("private sewer facilities"), shall remain with Owner.

2) Private sewer facilities shall not be dedicated to LWD, nor shall LWD
accept or be liable for ownership or maintenance of private sewer facilities.

3) Owner is solely liable and responsible for design, construction, operation,
maintenance, repair and replacement of private sewer facilities. Private sewer facilities shall meet
all of the applicable design, construction, maintenance and review requirements of LWD and the
plumbing and building code requirements of the jurisdictional city.

APPENDIX S
Private Pump Station Agreement

Recording requested by:)
Leucadia Wastewater District)
)
When recorded mail to:)
Leucadia Wastewater District)
1960 La Costa Avenue)
Carlsbad, CA 92009-6810)

SPACE ABOVE FOR RECORDERS USE ONLY

PRIVATE PUMP STATION AGREEMENT

Assessor's Parcel No. _____

LWD Location Code _____

This Agreement is entered into by and between _____
_____ ("Owner") and the Leucadia Wastewater District,
a governmental entity ("LWD") with reference to the following facts:

A. Owner has fee title to the real property commonly known as
_____ (*Street Address*) and more particularly
described in Exhibit A, attached hereto and incorporated herein ("Property");

B. Owner desires an exception to the LWD Standard that generally prohibits use of
private sewer pump stations, and LWD is willing to grant the exception, subject to the terms and
conditions of this Agreement,

NOW, THEREFORE, the parties, on behalf of themselves, their successors and assigns,
agree that the following covenants and conditions shall apply to the Property, subsequent owners
of the Property and any portion of the Property, regardless of whether it is divided or sold to one
or more owners:

1) Ownership and maintenance obligations of all individual home and private
sewer pump stations, force mains, manholes, and gravity laterals that serve, or are within the
Property, and including the physical connection to the public collection sewer ("private sewer
facilities"), shall remain with Owner.

2) Private sewer facilities shall not be dedicated to LWD, nor shall LWD
accept or be liable for ownership or maintenance of private sewer facilities.

3) Owner is solely liable and responsible for design, construction, operation,
maintenance, repair and replacement of private sewer facilities. Private sewer facilities shall meet
all of the applicable design, construction, maintenance and review requirements of LWD and the
plumbing and building code requirements of the jurisdictional city.

4) Owner acknowledges that a private sewer pump station may produce sewer
gases which can lead to odor complaints and/or corrosion of sewer infrastructure. Owner is solely
and strictly responsible for prevention of odor generation resulting in odor complaints and/or sewer

By: _____
Leucadia Wastewater District
General Manager

_____ Date

NOTARY REQUIRED

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APPENDIX T-1
Sewer Permit Supplement (FOG) Owner

**LEUCADIA WASTEWATER DISTRICT
SEWER PERMIT SUPPLEMENT
(FOG EQUIPMENT)**

The Owner of _____

(“Business Premises”) hereby agrees to comply with the terms and conditions of this Supplement to Sewer Service Permit (“Supplemental Permit”). Currently, Property Owner holds a sewer permit for _____ (No.) Equivalent Dwelling Units (EDUs) for the following property and/or commercial space: _____. Property Owner intends to occupy and use the Business Premises for purposes of operating _____ (Name and/or type of business). The submitted plans show seating for about _____ (No.) customers, resulting in a requirement for _____ (No.) EDU’s. To the extent not covered by the current permit, Owner must purchase all additional EDUs to meet this requirement.

Plans for improvement of the space, including plumbing have been prepared by _____ (Contact Information for Architect).

Based on review of submittals and discussion with Leucadia Wastewater District (LWD), LWD requires the use of a _____ (Size) gallon _____ Gravity Grease Interceptor ((Grease Interceptor)) or Hydromechanical Grease Interceptor ((Grease Trap)) installed as shown on the _____ (Proposed Plans) plans submitted for review and held on file at LWD, under the following Food Services Establishment operating conditions agreed hereto by the Owner.

1) This Supplemental Permit runs with the land. However, whenever a new Owner or Tenant (“New User”) assumes possession of the Business Premises, the New User shall: (i) provide LWD with documentation and/or plans showing how the Business Premises will be used, (ii) shall be required to comply with current sewer requirements appropriate to the existing or new business, and (iii) shall be required to execute a new Supplemental Permit. Until such time as a new Supplemental Permit is executed, the New User shall comply with the terms of this Supplemental Permit;

2) Owner agrees to provide Best Management Practices (BMP's) that prevent downstream nuisance from Fats, Oils, and Grease (FOG) generated by the subject operation. Owner shall schedule regular maintenance to ensure that no grease exceeding 100 milligrams per liter concentration is discharged from the _____ (Grease Interceptor/Grease Trap) into the LWD sewer collection system, as is required by LWD Resolution;

3) Owner shall make every reasonable effort to keep grease from entering the sewer system, including collection and disposal of grease to the solid waste trash collection to the maximum extent possible;

4) All cookware and utensils shall be rinsed and washed in the 3-compartment sink with drainage plumbed to the _____ (Grease Interceptor/Grease Trap). A dishwasher shall not be installed or connected to the _____ (Grease Interceptor/Grease Trap). Multiple use utensils _____ (shall not or may) be used in this business.

5) Owner shall utilize BMP's to isolate FOG to only _____ (No.) plumbing fixtures including the: 3-compartment sink; (*list fixtures connected to Grease Interceptor*) all of which shall be connected to the _____ (*Grease Interceptor/Grease Trap*) upstream of the connection to the sanitary sewer lateral; and

6) The _____ (*Grease Interceptor/Grease Trap*) shall be fully pumped out and cleaned at a minimum of once every ____ (*3 months for Grease Interceptor or 1 month for Grease Trap*) or at a frequency that the combined FOG and solids accumulation does not exceed twenty-five percent (25%) of the total designed hydraulic depth of the _____ (*Grease Interceptor/Grease Trap*). The cleaning must be performed by a company licensed to remove, process, and dispose of such FOG in a legal manner. In no case shall any accumulated FOG be discharged to the sanitary sewer. Tenant shall keep written records that document maintenance of the _____ (*Grease Interceptor/Grease Trap*), including at minimum, the name of the company that maintained and/or removed FOG from the _____ (*Grease Interceptor/Grease Trap*) and the date of such work.

LWD reserves the right to make unannounced periodic checks to ensure that the _____ (*Grease Interceptor/Grease Trap*) is being cleaned and maintained, as agreed above. If a buildup of grease occurs in the downstream sewer as a result of discharges from the Business Premises, then the cost of all related downstream maintenance provided by LWD will be charged to the Owner. Should unscheduled corrective action occur, LWD reserves the right to revise the maintenance schedule and sizing calculations requiring an increase in cleaning frequency and/or grease removal unit size or type, as deemed necessary at that time.

LWD reserves the right to revoke this Supplemental Permit for health and safety reasons and/or failure to comply with its terms.

Owner hereby agrees to hold harmless, defend and indemnify LWD, its officers, officials, employees, agents and consultants from and against any and all liability, loss, damage, expense, costs (including without limitation costs and fees of litigation) of every nature arising out of or in connection with the _____ (*Grease Interceptor/Grease Trap*) and related equipment authorized by this Supplemental Permit, except such loss or damage which was caused by the sole negligence or willful misconduct of an indemnified party.

Owner shall provide a copy of this Supplemental Permit to all successors and assigns of their interest in the business space benefited by this Supplemental Permit.

Owner:
(Name)
(Authorized Signee of Agreement)
(Address)
(Phone Number)

Signed

Date

NOTARY REQUIRED

APPENDIX T-2
Sewer Permit Supplement (FOG) Tenant

**LEUCADIA WASTEWATER DISTRICT
SEWER PERMIT SUPPLEMENT
(FOG EQUIPMENT)**

The Tenant of _____

(“Business Premises”) hereby agrees to comply with the terms and conditions of this Supplement to Sewer Service Permit (“Supplemental Permit”). Currently, the owner of the Business Premises (“Owner”) holds a sewer permit for _____ (No.) Equivalent Dwelling Units (EDUs) for the space for _____ (Owner's Name). Owner has leased, or intends to lease, the Business Premises to _____ (Current or Proposed Tenant's Name), for purposes of operating _____ (Name and/or type of business). The submitted plans show seating for about _____ (No.) customers, resulting in a requirement for _____ (No.) EDU’s. To the extent not covered by the current permit, Owner must purchase all additional EDUs to meet this requirement.

Plans for the Tenant Improvements (TI's) for plumbing have been prepared by _____ (Contact Information for Architect).

Based on review of submittals and discussion with Leucadia Wastewater District (LWD), LWD requires the use of a _____ (Size) gallon _____ (Gravity Grease Interceptor ((Grease Interceptor)) or Hydromechanical Grease Interceptor ((Grease Trap)) installed as shown on the _____ (Proposed Plans) plans submitted for review and held on file at LWD, under the following Food Services Establishment operating conditions agreed hereto by the Owner and Tenant:

1) This Supplemental Permit runs with the land. However, whenever a new Tenant (“New User”) assumes possession of the Business Premises, the New User shall: (i) provide LWD with documentation and/or plans showing how the Business Premises will be used; (ii) shall be required to comply with current sewer requirements appropriate to the existing or new business, and (iii) shall be required to execute a new Supplemental Permit. Until such time as a new Supplemental Permit is executed, the New User shall comply with the terms of this Supplemental Permit;

2) Tenant agrees to provide Best Management Practices (BMP's) that prevent downstream nuisance from Fats, Oils, and Grease (FOG) generated by the subject operation. Tenant shall schedule regular maintenance to ensure that no grease exceeding 100 milligrams per liter concentration is discharged from the _____ (Grease Interceptor/Grease Trap) into the LWD sewer collection system, as is required by LWD Resolution;

3) Tenant shall make every reasonable effort to keep grease from entering the sewer system, including collection and disposal of grease to the solid waste trash collection to the maximum extent possible;

4) All cookware and utensils shall be rinsed and washed in the 3-compartment sink with drainage plumbed to the _____ (*Grease Interceptor/Grease Trap*). A dishwasher shall not be installed or connected to the _____ (*Grease Interceptor/Grease Trap*). Multiple use utensils _____ (*shall not or may*) be used in this business;

5) Tenant shall utilize BMP's to isolate FOG to only _____ (*No.*) plumbing fixtures including the: 3-compartment sink; hand sink; and the mop sink all of which shall be connected to the _____ (*Grease Interceptor/Grease Trap*) upstream of the connection to the sanitary sewer lateral; and

6) The _____ (*Grease Interceptor/Grease Trap*) shall be fully pumped out and cleaned at a minimum of once every _____ (*3 months for Grease Interceptor or 1 month for Grease Trap*) or at a frequency that the combined FOG and solids accumulation does not exceed twenty-five percent (25%) of the total designed hydraulic depth of the _____ (*Grease Interceptor/Grease Trap*). The cleaning must be performed by a company licensed to remove, process, and dispose of such FOG in a legal manner. In no case shall any accumulated FOG be discharged to the sanitary sewer. Tenant shall keep written records that document maintenance of the _____ (*Grease Interceptor/Grease Trap*), including at minimum, the name of the company that maintained and/or removed FOG from the _____ (*Grease Interceptor/Grease Trap*) and the date of such work.

LWD reserves the right to make unannounced periodic checks to ensure that the _____ (*Grease Interceptor/Grease Trap*) is being cleaned and maintained, as agreed above. If a buildup of grease occurs in the downstream sewer as a result of discharges from the Business Premises, then the cost of all related downstream maintenance provided by LWD will be charged to the Tenant. Should unscheduled corrective action occur, LWD reserves the right to revise the maintenance schedule and sizing calculations requiring an increase in cleaning frequency and/or grease removal unit size or type, as deemed necessary at that time.

LWD reserves the right to revoke this Supplemental Permit for health and safety reasons and/or failure to comply with its terms.

Tenant hereby agrees to hold harmless, defend and indemnify LWD, its officers, officials, employees, agents and consultants from and against any and all liability, loss, damage, expense, costs (including without limitation costs and fees of litigation) of every nature arising out of or in connection with the _____ (*Grease Interceptor/Grease Trap*) and related equipment authorized by this Supplemental Permit, except such loss or damage which was caused by the sole negligence or willful misconduct of an indemnified party.

In the event Tenant fails to comply with the terms and conditions of this Supplemental Permit, Owner shall become jointly and severally responsible with Tenant for compliance with each of the terms and conditions of this Supplemental Permit. Any notices given by LWD to Tenant under the terms of this Supplemental Permit shall be concurrently given to Owner at the address below. Further, Owner shall be provided a reasonable opportunity to cure if Tenant fails to comply with the conditions of this Supplemental Permit.

Should Tenant no longer occupy the Business Premises, Owner shall be responsible for compliance with the Supplemental Permit terms and conditions until such time as a New User assumes possession of the Business Premises or until such time as Owner terminates this

Supplemental Permit by notifying LWD in writing that the use requiring this Supplemental Permit has been terminated and all related equipment removed.

Owner, shall provide a copy of this Supplemental Permit to all successors and assigns of its interest in the business space benefited by this Supplemental Permit.

Tenant:

(Name)

(Authorized Signee of Agreement)

(Address)

(Phone Number)

Signed

Date

Owner:

(Name)

(Authorized Signee of Agreement)

(Address)

(Phone Number)

Signed

Date

NOTARY REQUIRED

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APPENDIX U

Protocol for Plugging or Unplugging Sewers

LEUCADIA WASTEWATER DISTRICT PROTOCOL FOR PLUGGING OR UNPLUGGING SEWERS

General

Leucadia Wastewater District (LWD or District) has established formal protocol for the installation and removal of temporary plugs from sewers, whether the sewer is an existing or proposed District dedicated facility or even a temporary conveyance sewer. The protocol has been established for the express purpose of preventing sewer spills caused by construction related activities in both the not-yet-District-accepted Developer's upstream sewer and in the downstream District wastewater collection system. Some of the general requirements related to installation and removal of temporary plugs from LWD sewers includes:

1. All sewer work within the jurisdiction of LWD will be done in accordance with the LWD District Standard Specs, latest edition.
2. All plans for proposed additions to the LWD wastewater collection system shall be submitted to the District for review and signed approval by the District Engineer. No field changes shall be made to the approved plans without submittal, review, and acceptance of proposed field changes by the District Engineer's initials in the plan revision box.
3. No new upstream sewer in construction shall be connected to the active LWD wastewater collection system, except with approval and in the presence of the LWD Inspector. If such a connection will exist during the construction of the upstream Developer constructed sewer, then the connection shall be provided with a temporary sewer plug.
4. Temporary sewer plugs or bulkheads shall be of a design approved by the District Engineer and shall be installed by the Developer's Contractor in accordance with the approved plans upstream of the existing wastewater collection system in the presence of the LWD District Inspector. This temporary plug shall remain in place until such time as the Developer receives written approval or direction from the LWD District Engineer to remove the plug.
5. Prior to use for wastewater conveyance, sewers shall have been formally dedicated to LWD and formally accepted by the District, in accordance with the LWD Standard Specs, unless otherwise approved by the District Engineer in writing.
6. Only District staff, or a District retained Contractor, shall be allowed to insert or remove plugs or bulkheads in sewer manholes that are part of the downstream previously dedicated and accepted LWD sewer system, unless otherwise approved or directed by the District Engineer in writing.

Developer Submittal Required for Sewer Plugs

As part of each set of Sewer Improvement Plans submitted, the Developer shall include a Temporary Sewer Plug Plan for review and approval. In the event that Improvement Plans have been approved without the sewer plug issue being addressed, then a supplemental written Temporary Sewer Plug Plan shall be submitted by the Contractor in writing to the LWD District Engineer for review and approval.

The Temporary Sewer Plug Plan could be as simple or complex as the Developer requests, so long as the plan is reviewed and approved by the District Engineer. Items required in the Temporary Sewer Plug Plan shall include the following items, as necessary:

1. Clearly show which existing downstream manholes may already be plugged and which new manhole(s) shall be plugged on a temporary basis during the work;
2. Require the Developer's Contractor to provide a temporary manhole cover that is spray painted in bright red color. Such a bright red cover shall be in place at all times, while a sewer plug exists in a given manhole. This manhole cover shall be installed on top of any manhole with a sewer plug installed.
3. Clearly indicate the sequence of sewer construction including the installation and removal of any approved sewer plugs. Provide a sewer schematic with locations of plugs and sequence of work, if necessary to make the work clear.
4. The Temporary Sewer Plug Plan shall be reviewed in detail at the preconstruction meeting and later during the construction prior to any change of status of sewer plugs. No change of status of sewer plugs will be allowed without formal written approval from the District Engineer.
5. The Developer may propose a sequence of construction, sewer plugging and unplugging, that allows for limited temporary use of a sewer not yet accepted for service to housing sales models, construction trailers, or other use with the approval of such a plan discretionary by the District. Such a proposal is discouraged by the District; however, such a proposal be considered on the merit of each project. Such a proposal may require the downstream sewer plug to remain in place and for temporary periodic pumping of collected wastewater by the Developer's contractor while the sewer is in such use and prior to District acceptance. Such a proposal shall be submitted in sufficient detail for thorough review and considered approval by the District Engineer. Any such activity shall require approval and execution of a separate Temporary Service Agreement.
6. If temporary upstream use of the as-yet-unaccepted sewer is allowed, the Developer shall be directly responsible for: maintenance; periodic pumping, if necessary; odor control; man and equipment response to sewer spills including cleanup; reporting to LWD, the City, the RWQCB, the State Health Department; and payment of any imposed agency costs and levied fines.
7. It shall be the responsibility of the new upstream sewer constructor to remove any pre-existing downstream manhole plugs only in accordance with the pre-approved Temporary Sewer Plug Plan. No upstream sewer plugs shall be removed to allow flow to any as yet unaccepted downstream sewer, unless that is a District Engineer approved feature of the Temporary Sewer Plug Plan for the downstream Developer.

Conditions of new sewer acceptance

Under normal circumstances, newly installed sewer shall not be accepted by the District, or allowed to be used to convey wastewater until:

1. After construction of all required components of a given set of improvement plans;

2. After successful completion of low pressure air test for sewer, sewer cleaning, and District sewer condition acceptance based on CCTV inspection;
3. After successful vacuum testing of all manholes;
4. After City acceptance of all street improvements and paving in the vicinity of the sewer to be accepted; and
5. After LWD Inspector acceptance of completion of all punch list items; and

After substantial completion and at the request of the Owner to allow limited sewer use for sales models or other use approved by LWD, the downstream sewer plug may be removed and replaced with a debris trap. At that time the Developer's contractor shall paint, or re-paint, the manhole cover in the color yellow.

After completion and Final Acceptance of the construction of the sewer as noted above, the LWD Inspector will give written direction to remove any sewer plugs. At that time, the Developer's contractor shall re-paint the red painted manhole cover with black paint.

End

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APPENDIX V

Preconstruction Meeting Attachments

**LEUCADIA WASTEWATER DISTRICT
PRECONSTRUCTION MEETING - ATTACHMENTS**

PROJECT:		LOCATION:	
DATE:		OWNER:	
TIME:		CONTRACTOR:	

OPENING STATEMENTS:

- Protecting existing LWD infrastructures and protecting the environment by preventing spills is an important requirement; therefore, entry in or work that directly impacts live facilities requires a LWD representative to be present without exceptions.
- Contractor shall provide a three-week look-ahead schedule submittal for all sewer work.
- Requests for inspection services require notice by email at least two working days in advance.
- **All construction work to be installed in accordance ONLY with Approved Plans, LWD Standard Specifications (latest edition), and the Green Book.** (Please note LWD observes all federal holidays).
- Requests for construction changes must be made by submitting the Mylars with the change shown for review and approval by initials of District Engineer.
- Pre-Con Meeting attendees are to acknowledge receipt of this Pre-Con Agenda and the attached written agenda discussion.

GOAL:

The purpose of this preconstruction meeting is to introduce the personnel involved in the project and to establish a working understanding for the Work to be performed in accordance with the Standard LWD Standard Specification. This preconstruction meeting will also outline LWD inspection and testing procedures for the Work to be performed.

PARTICIPANTS:

Printed Name	Organization	Telephone	Email	Signature

**LEUCADIA WASTEWATER DISTRICT
PRECONSTRUCTION MEETING - ATTACHMENTS**

PART 1 – GENERAL

- (a) The sewer work for this development shall be completed in accordance with the approved Improvement Plans, Grading Plans, or other construction review document that has previously been reviewed, approved, and signed by the District Engineer.
- (b) Excepting lateral-only construction, the sewer work is also being completed under the requirements of an "Agreement to Improve Subdivision Sewers" between the Developer and LWD. There is no contract between LWD and the Developer's Contractor. LWD only provides review and approval of proposed sewer plans by the Developer's Private Engineer and inspection of sewer construction and testing by the Developer's Contractor. The Developer should be aware the Developer's Private Engineer and Contractor can affect the level of effort and expense by LWD, which is back-charged to the Developer.
- (c) All sewer work shall be completed in accordance with the LWD Standard Specification, latest edition, including any updates. The LWD Standard Spec also includes the Green Book and Green Book Committee supplements, as part of the requirements. Green Book supplements by other agencies such as the County of San Diego and the City of San Diego, etc. do not apply.
- (d) Bond and fee requirements – Specific requirements are outlined in the LWD Standard Specification, Division 1, Part 1, Section F, Developer Security. All costs for testing, retesting, and re-inspection incurred by LWD shall be at the sole expense of the Developer and shall be reimbursed to LWD prior to final approval and acceptance.
- (e) Inspection coordination – Contractor shall notify LWD at least two (2) working days in advance of any work to be done in order that sewer inspection services may be provided. Sewer inspection services will not be provided unless an inspection request is received by LWD in writing by email. No inspection is available on weekends, nights, holidays, unless approved by the District Engineer and acknowledged by the Owner/Developer.
- (f) Permits – Developer is responsible for providing and obtaining all permits necessary to complete the work. A copy of all permits shall be made available onsite during construction.
- (g) Material and workmanship – All materials, parts, and equipment furnished by the Contractor shall be new, high grade, and free from defects. Material and work quality not conforming to the requirements of LWD Standard Specification will be considered to be defective and be subject to rejection. The Contractor, at its own expense, shall remove defective work or material immediately from the site when so directed by the District Inspector or District Engineer.
- (h) Review Sewer Notes and other requirements of the approved construction documents.

PART 2 – FIELD OPERATIONS:

- (a) Developer and Contractor shall each present an overview of their proposed sequence of work and schedule.
- (b) Survey and layout –

**LEUCADIA WASTEWATER DISTRICT
PRECONSTRUCTION MEETING - ATTACHMENTS**

- All survey shall be done under the direction and supervision of the Developer's Land Surveyor licensed by the State of California.
 - Contractor shall furnish four (4) copies of "cut sheets" to the District Inspector for review purposes. "Cut sheets" shall be forwarded to the District Inspector prior to staking and excavation with no exceptions.
 - Contractor shall locate and mark all utilities in the field prior to any construction activity.
 - Contractor shall provide surveyed elevations and coordinates of all constructed facilities prior to final acceptance by the District. Variation from approved design elevations and location may be cause for rejection and rework.
 - Additional requirements for survey and layout are outlined in Division 2, Part 1 of LWD standard specification.
- (c) Inspections – Developer/Contractor is responsible to contact LWD for all inspection services. Any facilities installed without proper inspection will be considered to be not in conformance with the LWD Standard Specification and are subject to rejection. Developer/Contractor shall have a copy of the LWD Standard Specification and the "Green Book" onsite during construction at all times. Inspection requests will be scheduled based on the Inspector's availability. Items requiring repair or replacement shall be completed at the Contractor's expense.
- (d) Testing procedures – Specific testing procedures are outlined in Division 2, Part 3 of the LWD Standard Specification. When facilities installed exceed the limits allowed by each test, the facilities are considered to be not in conformance with the LWD Standard Specification and are subject to rejection. Contractor shall repair/replace, at its own expense, all facilities not in conformance with the LWD Standard Specification.

PART 3 – SUBMITTALS:

- (a) Contractor shall submit one (1) copy of the signed original plans, a three-week look-ahead schedule submittal, and shop drawings including for ALL proposed materials to LWD. At the time of submission, the Contractor shall give notice in writing in the submittal of any deviation from the requirements of the LWD Standard Specification or approved plans. The deviations shall be clearly indicated or described including all other changes required to correlate the Work.
- (b) No excavation for sewer or sewer lateral facilities shall be started before final approval of shop drawings by LWD Field Inspector. Submittals shall be provided for the items including, but not limited to, those items listed in **APPENDIX X CONSTRUCTION MATERIAL LIST**.
- (c) Work shall conform to approved submittals and all other requirements of the LWD Standard Specification.

PART 4 – SAFETY PROGRAM:

- (a) Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. This requirement applies

**LEUCADIA WASTEWATER DISTRICT
PRECONSTRUCTION MEETING - ATTACHMENTS**

continuously twenty-four hours a day, every day, until final acceptance of the Work, and shall not be limited to normal working hours.

- (b) Contractor shall comply with the safety requirements outlined in the "Green Book", Section 5-7 including trench shoring and confined space requirements.

PART 5 – CORRESPONDENCE REQUIREMENTS:

Contractor shall correspond to LWD through the Developer. Generally, day-to-day correspondence and any issues that may arise during construction shall be through the Developer to the District Inspector. Contractor's questions regarding LWD Standard Specification shall be forwarded to the Developer then to the District Inspector then to the District Engineer, with no exceptions.

APPENDIX W
Air Pressure Test Table

TABLE 306-7.8.2.4

Time in Seconds for Pressure to Drop from 2.5 to 1.5 pounds per square inch (17 to 10 kPa) Gauge Pressure

Main Line		4-inch (100 mm) House Connection					Main Line		6-inch (150 mm) House Connection				
Nominal Diameter Inches (mm)	Length ft (m)	House Connection Length					Nominal Diameter Inches (mm)	Length ft (m)	House Connection Length				
		0 ft (0 m)	100 ft (30 m)	200 ft (60 m)	300 ft (90 m)	400 ft (120 m)			0 ft (0 m)	100 ft (30 m)	200 ft (60 m)	300 ft (90 m)	400 ft (120 m)
8 (200)	0 (0)	0	20	40	50	70	8 (200)	0 (0)	0	40	80	100	100
	50 (15)	40	50	70	90	80		50 (15)	40	70	110	110	110
	100 (30)	70	90	100	100	90		100 (30)	70	110	120	110	110
	150 (45)	110	120	110	100	100		150 (45)	110	120	120	120	110
	200 (60)	140	120	110	110	100		200 (60)	140	130	120	120	120
	300 (90)	140	130	120	110	110		300 (90)	140	130	120	120	120
	400 (120)	140	130	120	120	110		400 (120)	140	130	130	120	120
10 (250)	50 (15)	50	70	90	100	90	10 (250)	50 (15)	50	90	120	120	110
	100 (30)	110	130	120	110	110		100 (30)	110	140	130	130	120
	150 (45)	170	150	140	130	120		150 (45)	170	150	140	140	130
	200 (60)	170	160	150	140	130		200 (60)	170	160	150	140	140
	300 (90)	170	160	150	150	140		300 (90)	170	160	150	150	140
12 (300)	50 (15)	80	100	110	110	110	12 (300)	50 (15)	80	120	140	130	120
	100 (30)	160	170	150	140	130		100 (30)	160	170	150	140	140
	150 (45)	200	180	170	160	150		150 (45)	200	180	170	160	150
	200 (60)	200	190	180	170	160		200 (60)	200	190	180	170	160
	300 (90)	200	190	180	180	170		300 (90)	200	190	180	180	170
15 (375)	50 (15)	120	140	160	140	130	15 (375)	50 (15)	120	160	160	150	140
	100 (30)	250	220	190	170	160		100 (30)	250	210	190	170	160
	150 (45)	260	230	220	200	190		150 (45)	260	230	210	200	190
	200 (60)	260	240	230	220	210		200 (60)	260	240	220	210	200
	300 (90)	260	240	230	220	220		300 (90)	260	240	230	220	210
18 (450)	50 (15)	180	200	190	170	150	18 (450)	50 (15)	180	220	190	170	160
	100 (30)	310	260	230	210	190		100 (30)	310	260	220	200	190
	150 (45)	310	280	260	250	230		150 (45)	310	280	260	240	220
	200 (60)	310	290	280	260	250		200 (60)	310	290	270	260	240
	300 (90)	310	290	280	270	260		300 (90)	310	290	280	270	260
21 (525)	50 (15)	240	260	230	200	180	21 (525)	50 (15)	240	260	220	200	180
	100 (30)	360	310	280	250	230		100 (30)	360	300	260	240	200
	150 (45)	360	330	310	290	280		150 (45)	360	330	300	280	260
	200 (60)	360	340	320	310	300		200 (60)	360	330	320	300	290
	300 (90)	360	340	330	320	310		300 (90)	360	340	330	310	300
24 (600)	50 (15)	320	320	270	240	210	24 (600)	50 (15)	320	310	260	220	200
	100 (30)	410	360	320	290	270		100 (30)	410	350	310	280	260
	150 (45)	410	380	360	340	320		150 (45)	410	370	350	320	310
	200 (60)	410	390	370	360	350		200 (60)	410	380	360	350	330
	300 (90)	410	390	360	370	360		300 (90)	410	390	370	360	350
27 (675)	50 (15)	400	370	310	280	250	27 (675)	50 (15)	400	350	290	260	230
	100 (30)	460	410	370	340	310		100 (30)	460	390	350	320	290
	150 (45)	460	430	410	390	370		150 (45)	460	420	390	370	350
	200 (60)	460	440	420	410	390		200 (60)	460	430	410	390	380
	300 (90)	460	450	430	420	410		300 (90)	460	440	420	410	390

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APPENDIX X
Sewer Construction Materials List

**Leucadia Wastewater District
Sewer Construction Material List
Submit All Items for Review – No Construction Allowed Prior to LWD Approval of Materials
Materials to Comply with LWD Standard Spec 2022and Greenbook 2021**

Project Name _____ **Contractor** _____ **Date** _____

Sewer Construction Item	Required Per LWD		Submittal Date	Approval Date
	Standard Drawings	Specification		
PVC SDR-35 Pipe – Greenbook	NA	2-3-5		
PVC SDR-35 Fittings - Greenbook	NA			
PVC SDR-35 Pipe Repair Couplings (GPK, Hug-Tite, or Equal)	S-32	2-2-3		
PVC C-900/C-905 Pipe Repair Couplings (Pure Blue or Equal)				
PVC Gasketed Cap (GPK or Equal)	NA	2-3-9		
PVC SDR-35 Stub Out W/ Gasketed Plug	S-31			
Cleanout Can and Lid	S-25			
Warning Tape/Metallic Locating Tape	S-11	2-2-4		
Pipe Bedding and Pipe Zone – ½” Crushed Rock Per Greenbook requirements	S-11	1-3-6		

Sewer Construction Item	Required Per LWD		Submittal Date	Approval Date
	Standard Drawings	Specification		
Concrete – Precast Manhole (MH) & Manhole Bases – Meet requirements of LWD Std Dwg S-3 & S-4, including 650-CW-4000 Concrete Type V & ASTM C-478, latest ed.	S-3, S-4	2-2-1		
MH Joint Gasket – Butyl Rubber Gasket CPS-210 by Pres-Seal, or equal	S-3, S-4	2-2-6		
MH Frame & Cover – With required lettering	S-6, S-7			
MH Liner – Epoxy or Interlocked PVC	S-3, S-4, S-5, S-19, S-33	2-5-2		
GPK "Sand Collar" (manhole connector)	S-3, S-4	2-2-4		
Non-Shrink Grout – Sika Grout 212, or equal (1)		2-2-2		
Mortar – Greenbook Class C (1)		2-2-2		
Mortar Repair – Sika Top 122 or 123, or equal (1)				
(1) All grouts and mortars used within sewer manholes shall be approved as compatible with the specific manhole lining system to be used for each manhole				

APPENDIX Y
Master Supplement Permit

Recording requested by:)
Leucadia Wastewater District)

When recorded mail to:)
Leucadia Wastewater District)
1960 La Costa Avenue)
Carlsbad, CA 92009-6810)

SPACE ABOVE FOR RECORDERS USE ONLY

MASTER SEWER SERVICE PERMIT AGREEMENT

Assessor's Parcel No.

LWD Location Code_____

This Agreement is entered into by and between _____ ("Owner") and the Leucadia Wastewater District, a governmental entity ("LWD") with reference to the following facts:

A. Owner has fee title to the real property commonly known as _____; Assessor Parcel Number (APN) _____ and more particularly described as:

(hereafter referred to as _____ or "Property")

B. The Property is being developed as a shopping center with _____ separate stand-alone buildings, of which _____ are planned with multiple anticipated tenants. Current estimates are that there will be approximately _____ separate tenants, some of which will operate Food Establishments, as defined by the LWD Wastewater Ordinance;

C. Concurrent with execution of this Agreement Owner has been issued a Master Sewer Service Permit for the Property, No. 1 ("Master Permit") that includes _____ equivalent dwelling units ("EDUs"), which are divided among each commercial building as shown on the table attached hereto and incorporated herein as Exhibit A ("EDU Table"). The EDU Table allocates EDUs based upon the square footage of each commercial building and is based on domestic wastewater discharge only. A change in the EDU allocation or the addition of EDUs will require an amendment of the Master Permit and/or a new or supplemental Sewer Service Permit;

D. Further, the Master Permit does not authorize sewer service for Food Establishments. Supplemental permits shall also be required for operation of Food Establishments within any building or unit on the Property. Permit conditions for Food Establishment may include payment of additional capacity fees for required EDUs and will include additional design requirements, and conditions, such as Best Management Practices for elimination and management of Fats, Oils, and Grease (FOG); and design standards for the type,

size, and location of grease removal devices specific to each Food Establishment including grease traps and grease interceptors depending on the nature of each Food Establishment;

E. Current LWD procedures provide that monthly sewer service fees for all service to the Property are charged to individual assessor parcel numbers (APNs) via the County Tax Roll and are based on the EDU's authorized for that APN. In this instance, APNs have been assigned to each building on the Property as described on the EDU Table.

F. The purpose of this Master Permit Agreement is to document the current Wastewater Permit Rights of Owner and establish the process for annual sewer service fee collection and future permit requirements for Owner or individual tenants of the Property,

NOW, THEREFORE, the parties, on behalf of themselves, their successors and assigns, agree that the following covenants and conditions shall apply to the Property, subsequent owners of the Property and any portion of the Property, regardless of whether it is divided or sold to one or more owners:

1) Allocation of EDU's authorized by the Master Permit shall be as shown on the EDU Table, unless a change is approved by an amendment or supplement to the Master Permit. Additional EDUs for the Property shall require a supplement to the Master Permit and/or a new or supplemental Sewer Service Permit.

2) Operation of any Food Establishments within the Property shall also require a separate Food Establishment Permit.

3) Owner or Property tenants may apply for a supplement to the Master Permit or separate permit to allow for additional EDU's and/or operation of Food Establishments within a building or unit of the Property. The terms and conditions of all permits issued for sewer service to units or buildings within the Property shall be considered supplements to the Master Permit and shall run with the land and be binding on the permit recipient and Owner.

4) Owner hereby grants LWD authority to accept Sewer Service Permit applications from Property tenants and agrees to be bound by the terms and conditions of any Sewer Service Permit issued to a tenant for service to the Property.

5) Monthly sewer service fees for all sewer service to the Property shall be charged to individual assessor parcel numbers (APNs) via the County Tax Roll and are shall be based on the EDU's authorized for that APN. In this instance, APNs have been assigned to each building on the Property as described on the EDU Table. Assessments shall be in accordance with the EDU Table, which shall be adjusted as needed to reflect EDU changes resulting from new supplemental sewer service permits for the Property. Owner shall be billed directly and be responsible for payment.

6) Owner shall provide a copy of this Agreement to all successors and assigns of its interest in the Property.

7) Should any portion of the Property or building thereon be divided or sold or sold to one or more Owners, the terms and conditions of this Agreement shall be binding on the new Owner with regard to the building or portion of Property owned.

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APPENDIX Z
Accessory Dwelling Unit
Agreement

Accessory Dwelling Unit Agreement

Supplemental Permit No. _____

The undersigned Owner(s) have applied for a Supplemental Permit to connect a new Accessory Dwelling Unit (“ADU”) at _____ (“Property”) to the Leucadia Wastewater District (“District”) sewer system, and have requested an exception to general requirement that the ADU have a separate sewer lateral that connects directly to the public sewer system. In exchange for District’s agreement to waive the separate sewer lateral requirement, and instead, allow connection of the ADU to the existing private sewer lateral serving the Property, Owners agree to the following:

1. Owners shall pay the capacity fee for the ADU based on square footage in accordance with the District’s Capacity Fee Ordinance.
2. Owners agree that the District’s waiver of its separate sewer lateral connection requirement is not intended to be, and may not be construed as, a waiver of the District’s capacity fee requirement for the ADU.
3. Owners shall pay all other required permit and/or inspection fees and otherwise comply with the terms and conditions of their Supplemental Permit.

Owner(s):

Print Name: _____

Date: _____

Signature: _____

Print Name: _____

Date: _____

Signature: _____

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LEADERS IN
ENVIRONMENTAL
PROTECTION

PREPARED BY
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