San Gorgonio Pass Water Agency

DATE: June 16, 2025

TO: Board of Directors

FROM: Lance Eckhart, General Manager

BY: Emmett Campbell, Senior Water Resources Planner

SUBJECT: Authorization to Solicit Construction Bids for the County Line Road

Recharge Basin and Turnout Project

<u>RECOMMENDATION</u>

Authorize staff to advertise construction bids for the County Line Road Recharge Basin and Turnout Project as a single contract, finalize the bid package accordingly, and take all other actions necessary to procure the construction services.

PREVIOUS CONSIDERATIONS

- October 7, 2024 Board of Directors adopted the Mitigated Negative Declaration for the County Line Road Recharge Basin and Turnout Project.
- October 21, 2024 Board of Directors approved the American Rescue Plan Act funding agreement with Riverside County for the County Line Road Recharge Basin and Turnout Project
- <u>January 6, 2025</u> Board of Directors approved a professional services agreement with CRM Tech for Archeological and Paleontological services for the County Line Road Recharge Basin and Turnout Project
- May 5, 2025 Board of Directors approved a paving agreement with the City of Calimesa to be completed in conjunction with the County Line Road Recharge Basin and Turnout Project
- May 19, 2025 Board of Directors approved a construction management services professional services agreement with Land Engineering Consultants, Inc. for the County Line Road Recharge Basin and Turnout Project

BACKGROUND AND ANALYSIS

The County Line Road Recharge Basin and Turnout Project is ready to proceed to the construction procurement phase. Project design and technical specifications have been completed, all necessary funding sources are secured, and environmental compliance requirements identified in the Mitigated Negative Declaration ("MND") and Mitigation Monitoring and Reporting Program ("MMRP") are either finalized or ready for implementation during construction. Construction management services have also been procured to support delivery.

Staff, with the assistance of Legal Counsel, Land Engineering, and Albert A. Webb Associates, has developed a comprehensive draft bid package and is requesting Board authorization to advertise for construction bids as a single contract encompassing the recharge basin, associated pipework, and roadwork.

Although the Agency does not maintain a direct subscription to PlanetBids, the bidding process will be managed through PlanetBids with assistance from Albert A. Webb Associates. Their support will ensure proper posting, administration of bidder questions, and coordination of all procurement activities leading up to the bid opening.

The tentative bid schedule is as follows:

- June 23, 2025 Advertise for bids
- July 11, 2025 Deadline for bidder questions
- July 23, 2025 Bid opening
- August 4, 2025 Board consideration of construction contract award

Staff will finalize the bid documents in coordination with Albert A. Webb Associates and proceed with the advertisement upon Board approval. Advertising at this time will keep the project on schedule, ensure compliance with funding timelines, and allow for construction activities to begin promptly following contract award.

STRATEGIC PLAN NEXUS

The County Line Road Recharge Basin and Turnout Project helps advance various aspects of the Agency's Strategic Plan, including:

- > Strategic Goal 2: Ensure a reliable delivery system that advances efficiency and resiliency.
 - Objective 1 Develop additional recharge facilities to support conjunctive use.
 - Objective 2 Investigate additional opportunities to increase water storage capabilities

FISCAL IMPACT

The General Fund Budget (the Green Bucket) for FY 2024-25 includes a line item "On-Call Agency Engineer" (line 86) under the General Engineering Services sub-section of the Consulting and Engineering Services section. The amount budgeted is \$250,000 and about \$136,000 has been spent as of May 31, 2025. This work is estimated to cost approximately \$20,000 and will be charged to this line item.

ACTION

Authorize staff to advertise construction bids for the County Line Road Recharge Basin and Turnout Project as a single contract, finalize the bid package accordingly, and take all other actions necessary to procure the construction services.

ATTACHMENTS

1. Draft Bid Package for the County Line Road Recharge Basin and Turnout Project

SAN GORGONIO PASS WATER AGENCY



BID AND CONTRACT DOCUMENTS FOR CONSTRUCTION OF THE:

COUNTY LINE RECHARGE BASIN PROJECT

1210 BEAUMONT AVENUE, BEAUMONT, CA 92223
TELEPHONE: (951) 845-2577; FACSIMILE: (951) 845-0281
WEB: www.sgpwa.com

Prepared Jointly By:

LAND ENGINEERING CONSULTANTS, INC.

P.O. Box 541, 650 Avenue K, Calimesa, CA 92320 Telephone: 909.795.8882

ALBERT A. WEBB ASSOCIATES

3788 McCray Street, Riverside, CA 92506 Telephone: 951.686.1070

Date: June 10, 2025

Proposals will be received through Planet Bids at this link (insert link) until 10:00 a.m. local time on July 23, 2025.

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00 11 16 - NOTICE INVITING BIDS

San Gorgonio Pass Water Agency (Owner) invites online bids on the PlanetBids website until 10:00am. on July 23, 2025, for the **County Line Road Improvements** in the City of Beaumont, consisting of furnishing all labor, technical and professional services, supervision, materials, and equipment, and performing all operations necessary and required in conformity with the requirements in the specifications and plans. No hard copy of the bid package will be accepted. The plans and specifications are available online to download through Albert A. WEBB Associates PlanetBids Portal (insert PB Link when available). All questions and requests for information and acceptability of substitutes, including any questions addressing the interpretation or clarification of the Contract Documents must be submitted directly to the PlanetBids website prior to July 11, 2025. Answers will be posted on PlanetBids on or before July 16, 2025.

Bids must be submitted on the Agency's Bid Forms. Bidders may obtain a copy of the Contract Documents from the Agency by emailing <u>Ecampbell@sgpwa.com</u> or calling (951) 845-2577 for \$50 per set (hard copy—full size), \$25 per set (hard copy—half size), or \$15 (CD). A non-refundable charge of \$20 will be required of any bidder who requests that the Contract Documents be mailed within California (costs for out-of-state mailings will be higher). To the extent required by section 20103.7 of the Public Contract Code, upon request from a contractor plan room service, the Agency shall provide an electronic copy of the Contract Documents at no charge to the contractor plan room.

Each Bid shall be accompanied by cash, a certified or cashier's check, or Bid Bond secured from a surety company satisfactory to the Board of Directors, the amount of which shall not be less than ten percent (10%) of the submitted Total Bid Price, made payable to San Gorgonio Pass Water Agency as bid security. The bid security shall be provided as a guarantee that within five (5) working days after the Agency provides the successful bidder the Notice of Award, the successful Bidder will enter into a contract and provide the necessary bonds and certificates of insurance. The bid security will be declared forfeited if the successful Bidder fails to comply within said time. No interest will be paid on funds deposited with Agency.

The successful Bidder will be required to furnish a Faithful Performance Bond and a Labor and Material Payment Bond each in an amount equal to one hundred percent (100%) of the Contract Price. Each bond shall be in the forms set forth herein, shall be secured from a surety company that meets all State of California bonding requirements, as defined in California Code of Civil Procedure Section 995.120, and that is a California admitted surety insurer.

Pursuant to Section 22300 of the Public Contract Code of the State of California, the successful Bidder may substitute certain securities for funds withheld by Agency to ensure its performance under the contract.

The Project will be funded in whole or in part by the following funding sources:

- Coronavirus State and Local Fiscal Recovery Funds, a part of the American Rescue Plan Act ("APRA")
- Funding Agreement between the County of Riverside and the San Gorgonio Pass Water Agency.

The successful Bidder will be required to comply with all requirements associated with ARPA funding in carrying out the Project, and the Funding Agreement, as further set forth in the Contract Documents.

Pursuant to Labor Code Section 1773, Agency has obtained the prevailing rate of per diem wages and the prevailing wage rate for holiday and overtime work applicable in Riverside County from the Director of the Department of Industrial Relations for each craft, classification, or type of worker needed to execute this contract. A copy of these prevailing wage rates may be obtained via the internet at: www.dir.ca.gov/dlsr/

In addition, a copy of the prevailing rate of per diem wages is available at the Agency and shall be made available to interested parties upon request. The successful bidder shall post a copy of the prevailing wage rates at each job site. It shall be mandatory upon the Bidder to whom the Contract is awarded, and upon any subcontractors, to comply with all Labor Code provisions, which include but are not limited to the payment of not less than the said specified prevailing wage rates to all workers employed by them in the execution of the Contract, employment of apprentices, hours of labor and debarment of contractors and subcontractors.

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No Bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project.

Since this Project is funded in whole or in part with federal funds, the work must also comply with the minimum rates for wages for laborers and mechanics as determined by the Secretary of Labor in accordance with the provisions of Davis-Bacon. The federal minimum wage rates for this Project are predetermined by the United States Secretary of Labor. These rates are available directly from the Department of Labor at http://www.dol.gov. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the contractor and its subcontractors shall pay not less than the higher wage rate.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. In bidding on this Project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this contract and applicable law in its Bid.

Unless otherwise provided in the Instructions for Bidders, each Bidder shall be a licensed contractor pursuant to sections 7000 et seq. of the Business and Professions Code in the following classification(s) throughout the time it submits its Bid and for the duration of the contract:

Class A (General Engineering Contractor)

Substitution requests shall be made within 35 calendar days after the award of the contract. Pursuant to Public Contract Code Section 3400(b), the Agency may make findings designating that certain additional materials, methods or services by specific brand or trade name other than those listed in the Specifications be used for the Project. Such findings, if any, as well as the

materials, methods or services and their specific brand or trade names that must be used for the Project may be found in the Special Conditions and Special Provisions.

The California Air Resources Board ("CARB") implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulations ("Regulation") which went into effect on January 1, 2024 and apply broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California. A copy of the Regulation is available at https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appa-1.pdf. Bidders are required to comply with all CARB and Regulation requirements, including, without limitation, all applicable sections of the Regulation, as codified in Title 13 of the California Code of Regulations section 2449 et seq. throughout the duration of the Project. Bidders must provide, with their Bid, copies of Bidder's and all listed subcontractors' most recent, valid Certificate of Reported Compliance ("CRC") issued by CARB. Failure to provide valid CRCs as required herein may render the Bid non-responsive.

Pursuant to Public Contract Code section 3400(b), if the Agency has made any findings designating certain materials, products, things, or services by specific brand or trade name, such findings and the materials, products, things, or services and their specific brand or trade names will be set forth in the Special Conditions and Special Provisions.

Agency shall award the contract for the Project to the lowest responsive, responsible Bidder as determined by the Agency from the Total Base Bid for Schedules I, II, III, IV, V, and VI. Agency reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding process.

For further information, contact the Agency's Executive Assistant located at 1210 Beaumont Avenue, Beaumont, CA 92223, via phone @(951) 845-2577, via fax @(951) 845-0281, or via email (preferred) @Ecampbell@sgpwa.com.

END OF NOTICE INVITING BIDS

00 21 13 - INSTRUCTIONS TO BIDDERS

ARTICLE 1. SECURING DOCUMENTS

Bids must be submitted via PlanetBids on the Bid Forms which are a part of the Bid Package for the Project. Bid and Contract Documents may be obtained from PlanetBids indicated in the Notice Inviting Bids. Prospective bidders are encouraged to contact Agency in advance to determine the availability of Contract Documents. Any charge for the Contract Documents is stated in the Notice Inviting Bids.

Addenda, if any, issued during the bid period will be sent only to those contractors who have obtained documents from the Agency via PlanetBids. Failure to acknowledge addenda may make a bid nonresponsive and not eligible for award of the contract.

ARTICLE 2. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

At its own expense and prior to submitting its Bid, each Bidder shall visit the site of the proposed work and fully acquaint itself with the conditions relating to the construction and labor required so that the Bidder may fully understand the work, including but not limited to difficulties and restrictions attending the execution of the work under the contract. Each Bidder shall carefully examine the Drawings, and shall read the Specifications, Contract, and all other documents referenced herein. Each Bidder shall also determine the local conditions which may in any way affect the performance of the work, including local tax structure, contractors' licensing requirements, availability of required insurance, the prevailing wages and other relevant cost factors, shall familiarize itself with all federal, state and local laws, ordinances, rules, regulations and codes affecting the performance of the work, including the cost of permits and licenses required for the work, and shall make such surveys and investigations, including investigations of subsurface or latent physical conditions at the site or where work is to be performed as may be required. Bidders are responsible for consulting the standards referenced in the Contract. The failure or omission of any Bidder to receive or examine any contract documents, forms, instruments, addenda, or other documents, or to visit the site and acquaint itself with conditions there existing shall in no way relieve any Bidder from any obligation with respect to its Bid or to the contract and no relief for error or omission will be given except as required under State law. The submission of a Bid shall be taken as conclusive evidence of compliance with this Article.

ARTICLE 3. INTERPRETATION OF DRAWINGS AND DOCUMENTS

Prospective Bidders unclear as to the true meaning of any part of the Drawings, Specifications or other proposed contract documents may submit to the Engineer of the Agency a written request for interpretation. The prospective Bidder submitting the request is responsible for prompt delivery. Interpretation of the Drawings, Specifications or other proposed contract documents will be made only by a written addendum duly issued and a copy of such addenda will be mailed or delivered to each prospective Bidder who has purchased a set of Drawings and Specifications. The Agency will not be responsible for any other explanation or interpretations of the proposed documents. If a Prospective Bidders becomes aware of any errors or omissions in any part of the Contract Documents, it is the obligation of the Prospective Bidder to promptly bring it to the attention of the Agency.

ARTICLE 4. ADDENDA

The Agency reserves the right to revise the Contract Documents prior to the Bid opening date. Revisions, if any, shall be made by written Addenda. All Addenda issued by the Agency shall be included in the Bid and made part of the Contract Documents. Pursuant to Public Contract Code Section 4104.5, if the Agency issues an Addendum which includes material changes to the Project less than 72 hours prior to the deadline for submission of Bids, the Agency will extend the deadline for submission of Bids. The Agency may determine, in its sole discretion, whether an Addendum warrants postponement of the Bid submission date. Each prospective Bidder shall provide Agency a name, address, email address, and facsimile number to which Addenda may be sent, as well as a telephone number by which the Agency can contact the Bidder. Copies of Addenda will be furnished by email, facsimile, first class mail, express mail or other proper means of delivery without charge to all parties who have obtained a copy of the Contract Documents and provided such current information. Please Note: Bidders are responsible for ensuring that they have received any and all Addenda. To this end, each Bidder should contact the Agency to verify that it has received all Addenda issued, if any, prior to the Bid opening. The Bidder shall indicate the Addenda received prior to bidding in the space provided in the Bid Form. Failure to indicate all Addenda may be sufficient cause for rejecting the Bid.

ARTICLE 5. ALTERNATE BIDS

If alternate bid items are called for in the Contract Documents, the time required for completion of the alternate bid items has already been factored into the Contract duration and no additional Contract time will be awarded for any of the alternate bid items. The Agency may elect to include one or more of the alternate bid items, or to otherwise remove certain work from the Project scope of work. Accordingly, each bidder must ensure that each bid item contains a proportionate share of profit, overhead, and other costs or expenses which will be incurred by the bidder.

ARTICLE 6. COMPLETION OF BID FORMS

Bids shall only be prepared using copies of the Bid Forms which are included in the Contract Documents. The use of substitute Bid Forms other than clear and correct photocopies of those provided by the Agency will not be permitted. Bids shall be executed by an authorized signatory as described in these Instructions to Bidders. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable), and initial all interlineations, alterations, or erasures to the Bid Forms. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms nor make substitutions thereon. Deviations in the Bid Forms may result in the Bid being deemed non-responsive.

ARTICLE 7. MODIFICATIONS OF BIDS

Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provisions attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall not delete, modify, or supplement the printed matter on the Bid Forms, or make substitutions thereon. Oral, telephonic and electronic modifications will not be considered.

ARTICLE 8. SUBCONTRACTORS

Bidder shall set forth the name, address of the place of business, and contractor license number of each subcontractor who will perform work, labor, furnish materials or render services to the

bidder on said contract and each subcontractor licensed by the State of California who, under subcontract to bidder, specially fabricates and installs a portion of the Work described in the Drawings and Specifications in an amount in excess of one half of one percent (0.5%) of the total bid price, and shall indicate the portion of the work to be done by such subcontractor in accordance with Public Contract Code Section 4104.

ARTICLE 9. LICENSING REQUIREMENTS

Pursuant to Business and Professions Code Section 7028.15 and Public Contract Code Section 3300, all bidders must possess proper licenses for performance of this Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted. Pursuant to Business and Professions Code Section 7028.5, the Agency shall consider any bid submitted by a contractor not currently licensed in accordance with state law and pursuant to the requirements found in the Contract Documents to be nonresponsive, and the Agency shall reject the Bid. The Agency shall have the right to request, and Bidders shall provide within ten (10) calendar days, evidence satisfactory to the Agency of all valid license(s) currently held by that Bidder and each of the Bidder's subcontractors, before awarding the Contract.

Notwithstanding anything contained herein, if the Work involves federal funds, the Contractor shall be properly licensed by the time the Contract is awarded, pursuant to the provisions of Public Contract Code section 20103.5.

ARTICLE 10. BID GUARANTEE (BOND)

Each bid shall be accompanied by: (a) cash; (b) a certified or cashier's check made payable to San Gorgonio Pass Water Agency; or (c) a Bid Bond secured from a surety company satisfactory to the Board of Directors, the amount of which shall not be less than ten percent (10%) of the Total Bid Price, made payable to San Gorgonio Pass Water Agency as bid security. Personal sureties and unregistered surety companies are unacceptable. The surety insurer shall be California admitted surety insurer, as defined in Code of Civil Procedure Section 995.120. The bid security shall be provided as a guarantee that within ten (10) working days after the Agency provides the successful bidder the Notice of Award, the successful bidder will enter into a contract and provide the necessary bonds and certificates of insurance. The bid security will be declared forfeited if the successful bidder fails to comply within said time, and Agency may enter into a contract with the next lowest responsive responsible bidder, or may call for new bids. No interest shall be paid on funds deposited with the Agency. Agency will return the security accompanying the bids of all unsuccessful bidders no later than 60 calendar days after award of the contract.

ARTICLE 11. IRAN CONTRACTING ACT OF 2010

In accordance with Public Contract Code Section 2200 *et seq.*, the Agency requires that any person that submits a bid or proposal or otherwise proposes to enter into or renew a contract with the Agency with respect to goods or services of one million dollars (\$1,000,000) or more, certify at the time the bid is submitted or the contract is renewed, that the person is not identified on a list created pursuant to subdivision (b) of Public Contract Code Section 2203 as a person engaging in investment activities in Iran described in subdivision (a) of Public Contract Code Section 2202.5, or as a person described in subdivision (b) of Public Contract Code Section 2202.5, as applicable.

The form of such Iran Contracting Certificate is included with the bid package and must be signed and dated under penalty of perjury.

ARTICLE 12. NONCOLLUSION DECLARATION

Bidders on all public works contracts are required to submit a declaration of noncollusion with their bid. This form is included with the bid package and must be signed and dated under penalty of perjury.

ARTICLE 13. PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a contract, the bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project. To this end, Bidder shall sign and submit with its Bid the Public Works Contractor Registration Certification on the form provided, attesting to the facts contained therein. Failure to submit this form may render the bid non-responsive. In addition, each Bidder shall provide the registration number for each listed subcontractor in the space provided in the Designation of Subcontractors form.

ARTICLE 14. BIDDER INFORMATION AND EXPERIENCE FORM

Each Bidder shall complete the questionnaire provided herein and shall submit the questionnaire along with its Bid. Failure to provide all information requested within the questionnaire along with the Bid may cause the bid to be rejected as non-responsive. The Agency reserves the right to reject any Bid if an investigation of the information submitted does not satisfy the Engineer that the Bidder is qualified to properly carry out the terms of the contract.

ARTICLE 15. WORKERS' COMPENSATION CERTIFICATION

In accordance with the provisions of Labor Code Section 3700, Contractor shall secure the payment of compensation to its employees. Contractor shall sign and file with the Agency the following certificate prior to performing the work under this Contract:

I am aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

The form of such Workers' Compensation Certificate is included as part of this document.

ARTICLE 16. COMPLIANCE WITH CALIFORNIA AIR RESOURCES BOARD REGULATIONS

A. Contractor shall comply, and shall ensure all subcontractors comply, with all applicable requirements of the most current version of the regulations imposed by California Air Resources Board ("CARB") including, without limitation, all applicable terms of Title 13, California Code of Regulations Division 3, Chapter 9 and all pending amendments ("Regulation").

- B. Throughout the Project, and for three (3) years thereafter, Contractor shall make available for inspection and copying any and all documents or information associated with Contractor's and its subcontractors' fleets including, without limitation, the Certificates of Reported Compliance ("CRCs"), fuel/refueling records, maintenance records, emissions records, and any other information the Contractor is required to produce, keep or maintain pursuant to the Regulation upon two (2) calendar days' notice from the District.
- C. Contractor shall be solely liable for any and all costs associated with compliance with the Regulation as well as for any and all penalties, fines, damages, or costs associated with any and all violations, or failures to comply with the Regulation. Contractor shall defend, indemnify and hold harmless the District, its officials, officers, employees and authorized volunteers free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Regulation.

ARTICLE 17. SIGNING OF BIDS

All Bids submitted shall be executed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of its Board of Directors or a Power of Attorney evidencing the capacity of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom.

If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venturer or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; and (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the Bid and under any Contract arising therefrom. The Bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

ARTICLE 18. SUBMISSION OF SEALED BIDS

Once the Bid and supporting documents have been completed and signed as set forth herein, they shall be uploaded, along with the Bid Guarantee and other required materials to the Planet Bids link in the NIB. Bids received after the time and day set for the receipt of bids shall be returned to the bidder unopened.

ARTICLE 19. WITHDRAWAL OF BID

Any bid may be withdrawn either personally or by written request, incurring no penalty, at any time prior to the scheduled closing time for receipt of bids. Requests to withdraw bids shall be worded so as not to reveal the amount of the original bid. Withdrawn bids may be resubmitted until the time and day set for the receipt of bids, provided that resubmitted bids are in conformance with the instructions herein.

Bids may be withdrawn after bid opening only by providing written notice to Agency within five (5) working days of the bid opening and in compliance with Public Contract Code Section 5100 *et seq.*, or as otherwise may be allowed with the consent of the Agency.

ARTICLE 20. BIDDERS INTERESTED IN MORE THAN ONE BID

No Bidder shall be allowed to make, file or be interested in more than one bid for the same work unless alternate bids are specifically called for. A person, firm or corporation that has submitted a sub-proposal to a Bidder, or that has quoted prices of materials to a Bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders. No person, firm, corporation, or other entity may submit a sub-proposal to a Bidder, or quote prices of materials to a Bidder, when also submitting a prime Bid on the same Project.

ARTICLE 21. SUBSTITUTION OF SECURITY

The Contract Documents call for monthly progress payments based upon the percentage of the Work completed. The Agency will retain a percentage of each progress payment as provided by the Contract Documents. At the request and expense of the successful Bidder, the Agency will substitute securities for the amount so retained in accordance with Public Contract Code Section 22300.

ARTICLE 22. PREVAILING WAGES

The Agency has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract. These rates are available at the Agency or may be obtained online at http://www.dir.ca.gov. Bidders are advised that a copy of these rates must be posted by the successful Bidder at the job site(s).

ARTICLE 23. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Labor Code Sections 1777.1 or 1777.7. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to the Agency. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

ARTICLE 24. INSURANCE REQUIREMENTS

Prior to commencing work, the successful bidder shall purchase and maintain insurance as set forth in the General Conditions.

ARTICLE 25. PERFORMANCE BOND AND PAYMENT BOND REQUIREMENTS

The successful bidder will be required to furnish a Labor and Material Payment Bond and a Faithful Performance Bond each in an amount equal to one hundred percent (100%) of the contract price. Each bond shall be secured from a surety company that meets all State of California bonding requirements, as defined in California Code of Civil Procedure Section 995.120 and is admitted by the State of California. Each bond shall be accompanied, upon the request of Agency, with all documents required by California Code of Civil Procedure Section 995.660 to the extent required by law. All bonding and insurance requirements shall be completed and submitted

to Agency within ten (10) working days from the date the Agency provides the successful bidder with the Notice of Award.

ARTICLE 26. SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES

Contractor and its subcontractors performing work under this Contract will be required to pay California sales tax and other applicable taxes, and to pay for permits, licenses and fees required by the agencies with authority in the jurisdiction in which the Work will be located, unless otherwise expressly provided by the Contract Documents.

ARTICLE 27. PERMIT AND INSPECTION FEE ALLOWANCE

Notwithstanding anything contained herein, the Bid Form contains an allowance for the Contractor's cost of acquiring traffic control permits and for construction inspection fees that may be charged to the Contractor by the Agency of Jurisdiction. The allowance is included within the Bid Form to eliminate the need by bidders to research or estimate the costs of traffic control permits and construction inspection fees prior to submitting a bid. The allowance is specifically intended to account for the costs of traffic control permits and construction inspection fees charged by the local Agency of Jurisdiction only. No other costs payable by Contractor to the Agency of Jurisdiction are included within the allowance.

ARTICLE 28. FILING OF BID PROTESTS

Bidders may file a "protest" of a Bid with the Agency. In order for a Bidder's protest to be considered valid, the protest must:

- A. Be filed in writing within five (5) calendar days after the bid opening date;
- B. Clearly identify the specific irregularity or accusation;
- C. Clearly identify the specific Agency staff determination or recommendation being protested;
- D. Specify in detail the grounds for protest and the facts supporting the protest; and
- E. Include all relevant, supporting documentation with the protest at time of filing.

If the protest does not comply with each of these requirements, the Agency may reject the protest without further review.

If the protest is timely and complies with the above requirements, the Agency, shall review the protest, any response from the challenged Bidder(s), and all other relevant information. The Agency will provide a written decision to the protestor.

The procedure and time limits set forth in this Article are mandatory and are the sole and exclusive remedy in the event of a Bid protest. Failure to comply with these procedures shall constitute a failure to exhaust administrative remedies and a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings.

ARTICLE 29. BASIS OF AWARD; BALANCED BID

The Agency shall award the Contract to the lowest responsible Bidder submitting a responsive Bid. The lowest Bid will be determined on the basis of the Total Base Bid Price.

The Agency may reject any Bid which, in its opinion when compared to other Bids received or to the Agency's internal estimates, does not accurately reflect the cost to perform the Work. The Agency may reject as non-responsive any Bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular bid items.

ARTICLE 30. AWARD PROCESS

Once all Bids are opened and reviewed to determine the lowest responsive and responsible Bidder, the Board of Directors may award the contract. The apparent successful Bidder should begin to prepare the following documents: (1) the Performance Bond; (2) the Payment Bond; and (3) the required insurance certificates and endorsements. Once the Agency notifies the Bidder of the award, the Bidder will have ten (10) working days from the date of this notification to execute the Contract and supply the Agency with all of the required documents and certifications. Regardless of whether the Bidder supplies the required documents and certifications in a timely manner, the Contract time will begin to run twenty (20) working days from the date of the notification. Once the Agency receives all of the properly drafted and executed documents and certifications from the Bidder, the Agency shall issue a Notice to Proceed to that Bidder.

ARTICLE 31. EXECUTION OF CONTRACT

As required herein the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. The Agency may require appropriate evidence that the persons executing the Contract are duly empowered to do so. The Contract and bond forms to be executed by the successful Bidder are included within these Specifications and shall not be detached.

ARTICLE 32. QUESTIONS

Questions regarding this Notice Inviting Bids may be directed to PlanetBids via the link in the Notice of Inviting Bid.

The deadline for submitting questions shall be July 11, 2025.

No other members of the Agency's staff or Board of Directors should be contacted about this procurement during the bidding process. Any and all inquiries and comments regarding this Bid must be communicated in writing, unless otherwise instructed by the Agency. The Agency may, in its sole discretion, disqualify any Bidder who engages in any prohibited communications.

00 41 43 - BID FORMS

1.1 <u>Bid</u>.

Bids will be received via Planet Bids, ink in Notice of Inviting Bids, until 10:00 a.m. on Wednesday July 23, 2025

The undersigned hereby declare that we have carefully examined the location of the proposed Work, and have read and examined the Contract Documents, including all plans, specifications, and all addenda, if any for the following Project:

COUNTY LINE RECHARGE BASIN PROJECT

We hereby propose to furnish all labor, materials, equipment, tools, transportation, and services, and to discharge all duties and obligations necessary and required to perform and complete the Project, as described and in strict conformity with the Drawings, and these Specifications for TOTAL BID PRICE indicated herein.

The undersigned acknowledges receipt, understanding, and full consideration of the following addenda to the Contract Documents:

Addenda	No		

- 1. Attached is the required Bid Guarantee in the amount of not less than 10% of the Total Bid Price.
- 2. Attached is the completed Designation of Subcontractors form.
- 3. Attached is the fully executed Noncollusion Declaration form.
- 4. Attached is the completed Iran Contracting Act Certification form.
- 5. Attached is the completed Fleet Compliance Certification form.
- 6. Attached is the completed Public Works Contractor Registration Certification form.
- 7. Attached is the completed Contractor's Certificate Regarding Workers' Compensation form.
- 8. Attached is the completed Bidder Information and Experience form.
- 9. Attached is the completed Anti-Lobbying Certification
- 10. Attached is the completed Debarment and Suspension Certification
- 11. Attached is the completed Executive Order N-22 Certification.

A. BID SCHEDULE

BID SCHEDULE I

General Items (applicable to Entire Project)

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
101.	Insurances, Licenses, and Permits (Entire Project)	Lump Sum	1	\$	\$
102.	Encroachment Permit(s) and Related Inspection Fees (Allowance)	Lump Sum	1	\$ <u>15,000</u>	\$ <u>15,000</u>
102.	Prepare and Maintain Critical Path Method and Project Schedule (Entire Project)	Lump Sum	1	\$	\$
103.	Traffic Control (Entire Project)	Lump Sum	1	\$	\$
104.	Erosion Control and NPDES (Entire Project)	Lump Sum	1	\$	\$
105.	Environmental Mitigation Monitoring and Reporting Program (MMRP) Compliance	Lump Sum	1	\$	\$

NET PRICE FOR BID SCHEDULE I (SUM OF BID ITEMS 101-105):

\$ Net Bid Schedule I Price in Numbers	
Net Bid Schedule I Price in Written Form	

BID SCHEDULE II

PRECISE GRADING & EROSION CONTROL PLAN

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
201.	Mobilization	Lump Sum	1	\$	\$
202.	Clear & Grub, Demolition, and Site Preparation	Lump Sum	1	\$	\$

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
203.	Over-excavation	Cubic Yard	3,135	\$	\$
204.	Cut	Cubic Yard	72,808	\$	\$
205.	Structural Fill	Cubic Yard	5,093	\$	\$
206.	Export	Cubic Yard	67,715	\$	\$
207.	Rough Grade Site	Square Foot	253,420	\$	\$
208.	Final Grade Site	Square Foot	253,420	\$	\$
209.	Recharge Basin Ripping – Bottom	Square Foot	82,673	\$	\$
210.	Recharge Basin Ripping – Side Slopes	Square Foot	27,451	\$	\$
211.	Construct 3" Asphalt Concrete Pavement (Over Base)	Ton	246	\$	\$
212.	Construct 6" Class II Aggregate Base	Ton	440		
213.	Construct 6" Class II Aggregate Base on Native Soils	Ton	1,638	\$	\$
214.	Construct 6" PCC Concrete Apron on Native Soils (40' width)	Square Foot	2,436	\$	\$
215.	Construct 6" PCC Concrete Apron on Native Soils (variable width)	Square Foot	478	\$	\$
216.	Construct 6" Curb per SPPWC Standard 120-2, Type A1-6	Square Foot	173	\$	\$
217.	Install 24" RCP Drain Pipe	Linear Foot	98	\$	\$
218.	Install 18" RCP Drain Pipe	Linear Foot	70	\$	\$
219.	Install 12" RCP Drain Pipe	Linear Foot	290	\$	\$
220.	Construct Reinforced Concrete Sump	Each	1	\$	\$
221.	Construct Staff Gauge	Each	3	\$	\$

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
222.	Construct U-Type Reinforced Concrete Headwall	Each	4	\$	\$
223.	Construct Wing-Type Reinforced Concrete Headwall	Each	2	\$	\$
224.	Construct Gravity Headwall	Each	1	\$	\$
225.	Install 12" Water F-25 Medium Duty Drainage Gate, or Approved Equal	Each	2	\$	\$
226.	Install 24" x 24" Catch Basin with Steel Traffic Grate, FloGard FGP-24F Insert Filter, and 12" Open Sump with Gravel Bottom	Each	3	\$	\$
227.	Construct Concrete Pipe Inlet Riser per Caltrans STD. D75B, Type GCP with Grated Inlet per Caltrans STD. D77B, Type 36R	Each	1	\$	\$
228.	Constr <mark>uc</mark> t Rock Outlet Protection, Class II, Placement B	Ton	33	\$	\$
229.	Construct Concreted Rock Lined Channel, Class II	Linear Foot	154	\$	\$
230.	Construct Rock Slope and Outlet Protection, Class VI, Placement A	Ton	376	\$	\$
231.	Install Concrete Wheel Stop in Accessible Parking Space	Each	2	\$	\$
232.	Paint 4" White Parking Space Stripe	Linear Foot	120	\$	\$
233.	Demo Existing Irrigation Structure	Each	1	\$	\$
234.	Protect Existing Power Pole and Guy Wire in Place	Lump Sum	1	\$	\$
235.	Cut and Remove Abandoned Pipelines to Limits of Grading Conflict	Linear Foot	760	\$	\$
236.	Adjust Existing Manhole to Grade	Each	1	\$	\$
237.	Install 1" Water Service and 3/4" Meter	Each	1	\$	\$
238.	Construct 24" CSP Grated Inlet	Each	1	\$	\$
239.	Construct 20"x20" Masonry Column with Stone Veneer and 2" Pyramidal Cap	Each	2	\$	\$
240.	Install 7' High Welded Steel Fence	Linear Foot	80	\$	\$

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
241.	Install 7' High Welded Steel Sliding Gate	Each	1	\$	\$
242.	Install 7' High Chain Link Fence with Barbed Wire	Linear Foot	2,550	\$	\$
243.	Install 12' Wide Chain Link Swing Gate with Barbed Wire	Each	2	\$	\$
244.	Install 15' Wide Chain Link Swing Gate with Barbed Wire	Each	1	\$	\$
245.	Install 20' Wide Chain Link Swing Gate with Barbed Wire	Each	1	\$	\$
246.	Remove and Dispose of Existing Fence	Linear Foot	1	\$	\$
247.	Construct Sandbag Check Dam	Each	21	\$	\$
248.	Install Silt Fence	Linear Foot	2,670	\$	\$
249.	Install Fiber Roll Slope Protection	Linear Foot	8,830	\$	\$
250.	Construct Stabilized Construction Entrance	Each	3	\$	\$
251.	Construct Storm Drain Inlet Protection	Each	3	\$	\$
252.	Construct Concrete Washout Area	Each	2	\$	\$
253.	Construct Material Delivery and Storage Area	Each	2	\$	\$
254.	Construct Sanitary/Waste Management Facilities	Each	2	\$	\$
255.	Apply hydraulic seed and mulch	Square Foot	49,876	\$	\$

NET PRICE FOR BID SCHEDULE II (SUM OF BID ITEMS 201-253):

\$	
Net Bid Schedule II Price in Numbers	
Net Bid Schedule II Price in Written Form	

BID SCHEDULE III

RAW WATERLINE EXTENSION AND REHABILITATION PLAN

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
301.	Mobilization	Lump Sum	1	\$	\$
302.	Testing and Hydrostatic Pressure Testing	Lump Sum	1	\$	\$
303.	Striping and Signage Repair	Lump Sum	1	\$	\$
304.	Join Existing Water Main and Provide Temporary CIPP Lining Access	Each	1	\$	\$
305.	Install 14" PVC C-900 DR-14 Pipe, Bedding, and Backfill	Linear Foot	1,065	\$	\$
306.	Install 14" Elbow with Megalug Rest <mark>rai</mark> nts	Each	17	\$	\$
307.	Inst <mark>all</mark> 14" Butter <mark>fly</mark> Valve	Each	2	\$	\$
308.	Install 6" Dry Barrel Blow-Off Assembly	Each	1	\$	\$
309.	Install 4" Dry Barrel Blow-Off Assembly	Each	1	\$	\$
310.	Install 2" Air-Vacuum Valve Assembly	Each	2	\$	\$
311.	Install Pipe Barricade	Each	1	\$	\$
312.	Bore and Jack 30" Casing	Linear Foot	34	\$	\$
313.	Repair Trench for Water Mains and Appurtenances	Linear Foot	571	\$	\$
314.	Repair Trench for Water Mains and Appurtenances (omit T-cut)	Linear Foot	359	\$	\$
315.	Install Flow Meter and Vault Assembly	Each	1	\$	\$
316.	Install 14" Waterman Industries F-25 Medium Duty Drainage Gate	Each	1	\$	\$
317A.	CIPP Lining – Preliminary Inspection	Linear Foot	5,060	\$	\$

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
317B.	CIPP Lining – Pipeline Cleaning (Hydro-Cleaning Method)	Linear Foot	5,060	\$	\$
317C.	CIPP Lining – Pre-lining Inspection	Linear Foot	5,060	\$	\$
317D.	CIPP Lining – Liner Installation	Linear Foot	5,060	\$	\$
317E.	CIPP Lining – Reinstate Connection(s)	Each	1	\$	\$
317F.	CIPP Lining – Post-Install Inspection	Linear Foot	5,060	\$	\$
318.	Install Concrete Utility Vault and Manhole with Flanged Cut-In Pipe Segment	Each	9	\$	\$
319.	Remove Existing Butterfly Valve and/or Fittings and Replace with 14" PVC C-900 DR-14 Pipe and Fittings	Each	5	\$	\$
320.	Remove Existing 12" Steel Pipeline and Replace with 14" PVC C-900 DR-14 Pipe	Linear Foot	20	\$	\$
321.	Repair Trench and Restore Pavement	Square Foot	970	\$	\$
322.	Restore Existing Concrete in Like Kind	Square Foot	456	\$	\$
323.	Protect and Support Existing Underground Utility	Linear Foot	98	\$	\$
324.	Cut and Remove Abandoned Pipeline	Linear Foot	57	\$	\$

NET PRICE FOR BID SCHEDULE III (SUM OF BID ITEMS 301-324):

\$ Net Bid Schedule III Price in Numbers	
Net Bid Schedule III Price in Written Form	

BID SCHEDULE IV

SMWC POTABLE WATERLINE PLAN

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
401.	Mobilization	Lump Sum	1	\$	\$
402.	Testing, Hydrostatic Pressure Testing, Chlorination, and Water Quality Testing	Lump Sum	1	\$	\$
403.	Join Existing Water Main	Each	2	\$	\$
404.	Install 8" PVC C-900 DR-14 Pipe, Bedding, and Backfill	Linear Foot	469	\$	\$
405.	Install 8" x 6" Reducer	Each	1	\$	\$
406.	Install <mark>8"</mark> 90° Elbow	Each	1	\$	\$
407.	Instal <mark>l 8</mark> " 45° Elbo <mark>w</mark>	Each	4	\$	\$
408.	Install 8" Gate Valve	Each	2	\$	\$
409.	Install 1" Air-Vacuum Valve As <mark>se</mark> mbly	Each	1	\$	\$
410.	Install Pipe Barricade	Each	2	\$	\$
411.	Install Thrust Block	Each	5	\$	\$
412.	Abandon Existing Watermain	Each	1	\$	\$

NET PRICE FOR BID SCHEDULE IV (SUM OF BID ITEMS 401-412):

\$ 	
Net Bid Schedule IV Price in Numbers	
Net Bid Schedule IV Price in Written Form	

BID SCHEDULE V

STREET IMPROVEMENT PLAN

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
501.	Mobilization	Lump Sum	1	\$	\$
502.	Cold Plane Pavement 1.5"	Square Foot	22,411		
503.	Sawcut and Remove Existing Asphalt, Base, and Subgrade (7" Depth)	Square Foot	14,391	\$	\$
504.	Sawcut and Remove Existing Asphalt, Base, and Subgrade (Variable Depth)	Square Foot	12,498	\$	\$
505.	Remove Existing AC Berm	Linear Foot	363	\$	\$
506.	Remove & Replace Concrete Driveway to Match Existing	Square Foot	595	\$	\$
507.	Construct 3" A.C. Pavement (Over Base)	Ton	261	\$	\$
508.	Construct 4" Miscellaneous Aggregate Base	Ton	313	\$	\$
509.	Construct 3" A.C. Pavement (Over Base)	Ton	126	\$	\$
510.	Construct 6" Class II Base	Ton	227		
511.	Construct 5" Minimum A.C. Pavement Over Compacted Native Soil	Ton	418	\$	\$
512.	Overlay Pavement 1.5"	Linear Foot	138	\$	\$
513.	Overlay Pavement Variable Thickness (1.5" min.)	Linear Foot	151	\$	\$
514.	Construct 6" Traversable Dike	Linear Foot	57	\$	\$
515.	Construct 6" Asphalt Dike	Linear Foot	21	\$	\$
516.	Construct Type A-8 Curb & Gutter	Linear Foot	249	\$	\$

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
517.	Construct Type A-6 Curb & Gutter	Linear Foot	155	\$	\$
518.	Construct Commercial Drive Approach	Each	1	\$	\$
519.	Construct Residential Drive Approach	Each	2	\$	\$
520.	Construct Concrete Sidewalk Adjacent to Curb	Square Foot	1,344	\$	\$
521.	Transition from 8" Curb Face to Existing 10" Curb Face	Each	1	\$	\$
522.	Protect in Place Existing Power Pole	Each	2	\$	\$
523.	Protect in Place Existing Valve	Each	8	\$	\$
524.	Protect in Place Existing Manhole	Each	2	\$	\$
525.	Adjust Valve to Grade	Each	4	\$	\$
526.	Adjust Sewer Manhole to Grade	Each	3	\$	\$
527.	Adjust Existing Fi <mark>re Hydra</mark> nt	Each	1	\$	\$
528.	Relocate Existing Mailbox	Each	2	\$	\$
529.	Rem <mark>ove and Replace Existing Street Sign</mark>	Each	1	\$	\$
530.	Install Channelizers at 12' O.C.	Each	4	\$	\$
531.	Install Type N-2(CA) Object Marker Sign	Each	1	\$	\$
532.	Paint Right Edge Line	Linear Foot	30	\$	\$
533.	Apply Stop Line with Temporary Traffic Paint	Linear Foot	10	\$	\$
534.	Apply Pavement Legend with Temporary Traffic Paint	Square Foot	75	\$	\$

NET PRICE FOR BID SCHEDULE V (SUM OF BID ITEMS 501-534):

\$	
Net Bid Schedule V Price in Numbers	
Net Bid Schedule V Price in Written Form	

BID SCHEDULE VI

LANDSCAPE ARCHITECTURAL PLANS

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
601.	Construct Irrigation Improvements	Lump Sum	1	\$	\$
602.	Groundcovers – Decomposed Granite	Square Foot	3,248	\$	\$
603.	Groundcovers – Wood Mulch	Square Foot	2,465	\$	\$
604.	Trees 24" Box – Prosopis Alba Colorado (Colorado Mesquite)	Each	4	\$	\$
605.	Trees 24" Box – Pinus Eldarica (Afghan Pine)	Each	6	\$	\$
606.	Trees 24" Box – Podocarpus Gracilior (Fern Pine)	Each	1	\$	\$
607.	Shrubs 5 Gal. – Leucophyllum Frutescens 'Green Cloud' TM (Green Cloud Texas Sage)	Each	26	\$	\$
608.	Grasses 1 Gal. – Muhlenbergia Capillaris 'Regal Mist' TM (Regal Mist Pink Muhly Grass)	Each	18	\$	\$
609.	Perennials 5 Gal. – Kniphofia Uvaria 'Pfitzer's Hybrid Mix' (Kniphofia Red Hot Poker)	Each	22	\$	\$
610.	Shrub Cover 5 Gal. – Acacia Redolens 'Low Boy' (Low Boy Bank Catclaw)	Each	27	\$	\$
611.	Shrub Cover 5 Gal. – Juniperus Squamata 'Blue Carpet' (Blue Carpet Juniper)	Each	25	\$	\$
612.	Succulents 5 Gal. – Hesperaloe Parviflora (Red Yucca)	Each	24	\$	\$

NET PRICE FOR BID SCHEDULE VI (SUM OF BID ITEMS 601-612):

\$		
Net Bid Schedule VI Price	in Numbers	
Net Bid Schedule VI Price in	n Written Form	
BID SUMMAR	<u>RY</u>	
SUB-TOTAL FOR BID SCHEDULES I, II, III, IV, V, AND) VI	SUB-TOTAL
SUD-LUTAL LUK DID SCHEDULLS I. II. III. IV. V. ANL		
	, A1	30D-101AL
\$, v i	30D-101AL
	TOTAL	\$
\$		
\$	TOTAL	
\$ BID ADDITIONS/DEDUCTIONS	TOTAL	
\$ BID ADDITIONS/DEDUCTIONS	TOTAL	
\$ BID ADDITIONS/DEDUCTIONS	TOTAL TOTAL	

The costs for any Work shown or required in the Contract Documents, but not specifically identified as a line item are to be included in the related line items and no additional compensation shall be due to Contractor for the performance of the Work.

In case of discrepancy between the Unit Price and the Item Cost set forth for a unit basis item, the unit price shall prevail and shall be utilized as the basis for determining the lowest responsive, responsible Bidder. However, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or is the same amount as the entry in the "Item Cost" column, then the amount set forth in the "Item Cost" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the Unit Price.

For purposes of evaluating Bids, the Agency will correct any apparent errors in the extension of unit prices and any apparent errors in the addition of lump sum and extended prices.

The estimated quantities for Unit Price items are for purposes of comparing Bids only and the Agency makes no representation that the actual quantities of work performed will not vary from the estimates. Final payment shall be determined by the Engineer from measured quantities of work performed based upon the Unit Price.

B. TOTAL BID PRICE:

TOTAL BID PRICE BASED ON BID SCHEDULES I, II, III, IV, V, & VI TOTAL OF UNIT PRICES

\$
Total Bid Price in Numbers
\$
Total Bid Price in Written Form
n case of discrepancy between the written price and the numerical price, the written price shall prevail.

The undersigned agrees that this Bid Form constitutes a firm offer to the Agency which cannot be withdrawn for the number of calendar days indicated in the Notice Inviting Bids from and after the Bid opening, or until a Contract for the Work is fully executed by the Agency and a third party, whichever is earlier.

If the Contract Documents specify Alternate Bid items, the following Alternate Bid amounts shall be added to or deducted from the Total Bid Price entered above (please check the appropriate box), in the Agency's sole discretion. The Agency can choose to include any, all, or none of the Alternate Bid items in the Work. If the Agency selects any of the Alternate Bid items, the corresponding Alternate Bid prices shall be added to or deducted from Base Bid Price for the Work.

Alternate Bid Item

The below Alternative Bid Item SHALL NOT be included as part of the Base Bid.

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
AB1.	24" HDPE Pipe ¹	Linear Foot	98	\$	\$
AB2.	18" HDPE Pipe ¹	Linear Foot	70	\$	\$
AB3.	12" HDPE Pipe ¹	Linear Foot	290	\$	\$
AB4.	14" Ductile Iron Pipe, Bedding, and Backfill ²	Linear Foot	1,065	\$	\$
AB5.	8" Ductile Iron Pipe, Bedding, and Backfill ²	Linear Foot	469	\$	\$
AB6.	CIPP Lining – Pipeline Cleaning (Mechanical and Hydro-Cleaning Method) ³	Linear Foot	1,000	\$	\$

No.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	ITEM COST
AB7.	CIPP Lining – Pipeline Cleaning (Mechanical and Hydro-Cleaning Method) ³	Linear Foot	2,000	\$	\$
AB8.	CIPP Lining – Pipeline Cleaning (Mechanical and Hydro-Cleaning Method) ³	Linear Foot	3,000	\$	\$
AB9.	CIPP Lining – Pipeline Cleaning (Mechanical and Hydro-Cleaning Method) ³	Linear Foot	4,000	\$	\$
AB10.	CIPP Lining – Pipeline Cleaning (Mechanical and Hydro-Cleaning Method) ³	Linear Foot	5,060	\$	\$

¹ – At the discretion of the Agency, HDPE pipe may be substituted for RCP pipe

ALTERNATE BIDS	BID PRICE (IN WRITTEN FORM)	BID PRICE (IN NUMBERS)
ALTERNATE #1 □ Add □ Deduct		
ALTERNATE #2 □ Add □ Deduct		
ALTERNATE #3 □ Add □ Deduct		
ALTERNATE #4 □ Add □ Deduct		
ALTERNATE #5 □ Add □ Deduct		

² – At the discretion of the Agency, 14" DIP may be substituted for 14" PVC pipe. Cost at the unit price shall include change of necessary fittings, valves, restraints, and all other associated components

³ – As determined necessary by the CIPP lining sub-contractor and Engineer, cleaning of the pipeline portions requiring mechanical and hydro-cleaning methods may be substituted for hydro-cleaning only methods (Bid Item No. 317B). No section of pipeline may be charged for more than one cleaning bid item.

ALTERNATE #6						
☐ Add ☐ Deduct						
ALTERNATE #7						
☐ Add ☐ Deduct						
ALTERNATE #8						
☐ Add ☐ Deduct						
ALTERNATE #9						
☐ Add ☐ Deduct						
ALTERNATE #10						
☐ Add ☐ Deduct						
The successful bidder hereby agrees to sign the contract and furnish the necessary bonds and certificates of insurance within ten (10) working days after the Agency provides the successful bidder with the Notice of Award.						
Upon receipt of the signed contract and other required documents, the contract will be executed by the Agency, after which the Agency will prepare a letter giving Contractor Notice to Proceed. The official starting date shall be the date of the Notice to Proceed, unless otherwise specified. The undersigned agrees to begin the Work within ten (10) working days of the date of the Notice to Proceed, unless otherwise specified.						
The undersigned has examined the location of the proposed work and is familiar with the Drawings and Specifications and the local conditions at the place where work is to be done.						
If awarded the contract, the undersigned agrees that there shall be paid by the undersigned and by all subcontractors to all laborers, workers and mechanics employed in the execution of such contract no less than the prevailing wage rate within Riverside County for each craft, classification, or type of worker needed to complete the Work contemplated by this contract as established by the Director of the Department of Industrial Relations. A copy of the prevailing rate of per diem wages are on file at the Agency's Administration Office and shall be made available to interested parties upon request.						
Enclosed find cash, bidder's bond, or cashier's or certified check No from the Bank in the amount of, which is not less than ten percent (10%) of this bid, payable to San Gorgonio Pass Water Agency as bid security and which is given as a guarantee that the undersigned will enter into a contract and provide the necessary bonds and certificates of insurance if awarded the Work.						
The bidder furthermore agrees that in case of bidder's default in executing said contract and furnishing required bonds and certificates of insurance, the cash, bidder's bond, or cashier's or certified check accompanying this proposal and the money payable thereon shall become and shall remain the property of the San Gorgonio Pass Water Agency.						
Bidder is an individual the laws of the State of	, or corporation, or partners	ship, organized under				
Bidder confirms license(s) required by California State Contractor's License Law for the performance of the subject project are in full effect and proper order. The following are the Bidder's applicable license number(s), with their expiration date(s) and class of license(s):						

If the Bidder is a joint venture, <u>each</u> member of the joint venture must include the required licensing information.

Sureties that will furnish the Faithful Performance Bond and the Labor and Material Payment Bond, in the form specified herein, in an amount equal to one hundred percent (100%) of the contract price within ten (10) working days from the date the Agency provides the successful bidder the Notice of Award. Sureties must meet all of the State of California bonding requirements, as defined in California Code of Civil Procedure Section 995.120 and must be authorized by the State of California.

The insurance company or companies to provide the insurance required in the contract documents must have a Financial Strength Rating of not less than "A-" and a Financial Size Category of not less than "Class VII" according to the latest Best Key Rating Guide. At the sole discretion of the Agency, the Agency may waive the Financial Strength Rating and the Financial Size Category classifications for Workers' Compensation insurance.

(signatures continued on next page)

I hereby certify under penalty of perjury under the laws of the State of California that all of the information submitted in connection with this Bid and all of the representations made herein are true and correct.

Executed at	, on th	nis, day of,		
		(Bidders Name – Print or Type)		
(Corporate Seal)		(Name and Title)		
		(Signature)		
Names of individual members of firm addresses are listed below:	n or names a	and titles of all officers of corporation and their		
Name	Title			
Complete Address				
PhoneFAX				
Name	Title			
Complete Address				
Phone				
Name	Title			
Complete Address				
		FAX		
Name_	Title_			
Complete Address				
Phone		AX		

1.2 Bid Bond

cashier's check, accompanies bid.] The makers of this bond are, ______ ____, as Surety Principal, and and are held and firmly bound unto the San Gorgonio Pass Water Agency, hereinafter called the Agency, in the penal sum of TEN PERCENT (10%) OF THE TOTAL BID PRICE of the Principal submitted to AGENCY for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying bid dated ______, 20 ____, for COUNTY LINE RECHARGE BASIN If the Principal does not withdraw its Bid within the time specified in the Contract Documents; and if the Principal is awarded the Contract and provides all documents to the Agency as required by the Contract Documents: then this obligation shall be null and void. Otherwise, this bond will remain in full force and effect. Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents shall in affect its obligation under this bond, and Surety does hereby waive notice of any such changes. In the event a lawsuit is brought upon this bond by the Agency and judgment is recovered, the Surety shall pay all litigation expenses incurred by the Agency in such suit, including reasonable attorneys' fees, court costs, expert witness fees and expenses. IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporation. (Corporate Seal) Contractor/ Principal By_____ Suretv (Corporate Seal) By _____ Attorney-in-Fact (Attach Attorney-in-Fact Certificate)

[Note: Not required when other form of Bidder's Security, e.g. cash, certified check or

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA COUNTY OF	
	, Notary Public, personally
appearedName(s) of Signer(s)	, who proved to me on the basis of satisfactory
evidence to be the person(s) whose name(s) is/are s me that he/she/they executed the same in his/her/	ubscribed to the within instrument and acknowledged to their authorized capacity(ies), and that by his/her/their ntity upon behalf of which the person(s) acted, executed
I certify under PENALTY OF PERJURY under the law is true and correct.	vs of the State of California that the foregoing paragraph
V	/ITNESS my hand and official seal.
Signature of Notary Public OPT	TIONAL
Though the information below is not required by law,	it may prove valuable to persons relying on the document eattachment of this form to another document.
CAPACITY CLAIMED BY SIGNER	DESCRIPTION OF ATTACHED DOCUMENT
☐ Individual☐ Corporate Officer	·
Title(s)	Title or Type of Document
□ Partner(s) □ Limited □ General □ Attorney-In-Fact	Number of Pages
 □ Trustee(s) □ Guardian/Conservator □ Other: Signer is representing: Name Of Person(s) Or Entity(ies) 	Date of Document
	Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA COUNTY OF			
On	, 20	_, before me, _	, Notary Public, personally
appeared			, who proved to me on the basis of satisfactory
me that he/she/they ex	cecuted t	the same in h	is/are subscribed to the within instrument and acknowledged to his/her/their authorized capacity(ies), and that by his/her/their or the entity upon behalf of which the person(s) acted, executed
I certify under PENALTY is true and correct.	OF PE	RJURY under	the laws of the State of California that the foregoing paragraph
Signature of No	otary Public		WITNESS my hand and official seal. OPTIONAL
			by law, it may prove valuable to persons relying on the document val and reattachment of this form to another document.
CAPACITY CLAI	MED BY	SIGNER	DESCRIPTION OF ATTACHED DOCUMENT
☐ Individual☐ Corporate Officer			
Ti	tle(s)		Title or Type of Document
	□ Lim □ Ger	ited neral	Number of Pages
☐ Guardian/Conservator ☐ Other: Signer is representing: Name Of Person(s) Or Entity(ies))		Date of Document
			Signer(s) Other Than Named Above
			Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of-Attorney to local representatives of the bonding company must also be attached.

END OF BID BOND

1.3 <u>List of Subcontractors</u>

In compliance with the Subletting and Subcontracting Fair Practices Act Chapter 4 (commencing at Section 4100), Part 1, Division 2 of the Public Contract Code of the State of California and any amendments thereof, Bidder shall set forth below: (a) the name and the location of the place of business, (b) the California contractor license number, (c) the DIR public works contractor registration number, and (d) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the work or improvement to be performed under this Contract in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price. Notwithstanding the foregoing, if the work involves the construction of streets and highways, then the Bidder shall list each subcontractor who will perform work or labor or render service to the Bidder in or about the work in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If a Bidder fails to specify a subcontractor or if a contractor specifies more than one subcontractor for the same portion of work, then the Bidder shall be deemed to have agreed that it is fully qualified to perform that portion of work and that it shall perform that portion itself.

Note: Agency requires that Contractor shall perform at least <u>60%</u> of the Work with its own forces and equipment.

Work to be done by Subcontractor	Name of Subcontractor	Location of Business	CSLB Contractor License No.	DIR Reg <mark>ist</mark> ration Number	% of Work

Work to be done by Subcontractor	Name of Subcontractor	Location of Business	CSLB Contractor License No.	DIR Registration Number	% of Work
		A			

(Attach additional sheets if necessary)
Name of Bidder
Signature
Name and Title
Dated

1.4 MATERIAL SOIRCE AND PROCUREMENT DECLARATION

For each item listed below, the Bidder shall provide the name of the proposed manufacturer or supplier, the location of the manufacturing plant, and the estimated procurement time. Submission of this information is for evaluation and scheduling purposes only and does not constitute Owner approval of the listed sources.

Listing a manufacturer or supplier in the bid does not grant any rights under the Contract to that party. The Owner reserves the right to approve, reject, or request substitution of any proposed source. If the Owner approves a listed source, the Successful Bidder shall furnish materials or equipment from that source unless otherwise approved in writing by the Owner.

Substitutions or changes to the listed manufacturers or suppliers may be made after contract award only with written Owner approval and shall not impose any liability on the Owner.

Item	Manufacturer	Plant Location	Procurement Time
Reinforced Concrete Pipe (RCP)	RAM		
High-Density Polyethylene Pipe (HDPE)			
Drainage Gate			
24"x24" Catch Basin and Insert Filter			
1" Water Service			
Water Service Meter Box			
Corrugates Steel Catch Basin Inlet			
Chain Link Fence with Barbed Wire and Gates			
Welded Steel Fence and Gates			

Item	Manufacturer	Plant Location	Procurement Time
Polyvinyl Chloride Pipe (PVC)			
Ductile Iron Pipe (DIP)			
Steel Casing Pipe			
Butterfly Valve			
Gate Valve			
Pipe Fittings (Misc.)	D A		
Air Vacuum As <mark>se</mark> mbly			
Blow Off Assembly			
Steel Pipe Barricade			
Flow Meter and Vault			
CIPP Lining			
Concrete Utility Vault and Manhole			
Channelizers			
Red Retroreflective Object Marker Sign			

ltem	Manufacturer	Plant Location	Procurement Time
Landscape Irrigation			
Landscape Planting			



1.5 <u>Bidder Information and Experience Form</u>

ARTICLE 1. INFORMATION ABOUT BIDDER

(Indicate not applicable ("N/A") where appropriate.)

NOTE:

fc	or all pa	rties to the joint venture.
1.0	Name	e of Bidder:
2.0	Туре	, if Entity:
3.0	Bidde	er Address:
	Facs	imile Number Telephone Number
	Emai	I Address
4.0	How	many years has Bidder's organization been in business as a Contractor?
5.0		many years has Bidder's organization been in business under its presen
	5.1	Under what other or former names has Bidder's organization operated?
6.0	If Bid	der's organization is a corporation, answer the following:
	6.1	Date of Incorporation:
	6.2	State of Incorporation:
	6.3	President's Name:
	6.4	Vice-President's Name(s):
	6.5	Secretary's Name:
	6.6	Treasurer's Name:

Where Bidder is a joint venture, pages shall be duplicated and information provided

if an	individual or a partnership, answer the following:
7.1	Date of Organization:
7.2	Name and address of all partners (state whether general or limited partnership):
	ther than a corporation or partnership, describe organization and notipals:
List	other states in which Bidder's organization is legally qualified to do busine
Wha	at type of work does the Bidder normally perform with its own forces?
	Bidder ever failed to complete any work awarded to it? If so, note when, when, when;
beer	in the last five years, has any officer or partner of Bidder's organization an officer or partner of another organization when it failed to compleract? If so, attach a separate sheet of explanation:
	Trade References:

L	List Bank References (Bank and Branch Address):
	,
-	
	Name of Bonding Company and Name and Address of Agent:
_	
-	
-	

ARTICLE 2. LIST OF CURRENT PROJECTS (BACKLOG)

[**Duplicate Page if needed for listing additional current projects.**]

Project	Description of Bidder's Work	Completion Date	Cost of Bidder's Work
	- 1/		

ARTICLE 3. LIST OF COMPLETED PROJECTS - LAST THREE YEARS

[**Duplicate Page if needed for listing additional completed projects.**]

Please include only those projects which are similar enough to demonstrate Bidder's ability to perform the required Work.

Project	Description of Bidder's Work	Completion Date	Cost of Bidder's Work

ARTICLE 4. EXPERIENCE AND TECHNICAL QUALIFICATIONS QUESTIONNAIRE

Personnel:

The Bidder shall identify the key personnel to be assigned to this project in a management, construction supervision or engineering capacity.

construction supervision or engineering capacity.
1. List each person's job title, name and percent of time to be allocated to this project:
2. Summarize each person's specialized education:
3. List each person's years of construction experience relevant to the project:
4. Summarize such experience:
Bidder agrees that personnel named in this Bid will remain on this Project until completion of a relevant Work, unless substituted by personnel of equivalent experience and qualification approved in advance by the Agency.
Changes Occuring Since Prequalification
If any substantive changes have occurred since Bidder submitted its prequalification package for this Project, Bidder shall list them below. If none are listed, Bidder certifies that no substantive changes have occurred.

Additional Bidder's Statements:

If the Bidder feels that there is additional information which has not been included in a questionnaire above, and which would contribute to the qualification review, it may add the information in a statement here or on an attached sheet, appropriately marked:	
ARTICLE 5. VERIFICATION AND EXECUTION	_
These Bid Forms shall be executed only by a duly authorized official of the Bidder:	
I declare under penalty of perjury under the laws of the State of California that the forego information is true and correct:	ing
Name of Bidder	
Signature	
Name	
Title	
Date	

1.5 <u>Non-Collusion Declaration</u>

The undersigned declares:			
I am the foregoing Bid.	of		, the party making the
The Bid is not made in the intercompany, association, organization. The Bidder has not directly or incompany bid. The Bidder has not directly or indirectly any manner, directly or indirectly anyone to fix the Bid Price of the element of the Bid Price, or of the true. The Bidder has not, directly thereof, or the contents thereof, or partnership, company, association thereof to effectuate a collusive centity for such purpose.	on, or corporation. The directly induced or solution of cettly or indirectly collution a sham bid, or to rely, sought by agreem Bidder or any other Bidder or indirectly, submitter divulged information on, organization, bid	e Bid is genuine and icited any other Bid uded, conspired, confering from bidding nent, communication idder, or to fix any core. All statements confer Bid Pror data relative ther depository, or to see the second of the second	d not collusive or sham. Ider to put in a false or onnived, or agreed with The Bidder has not in on, or conference with overhead, profit, or cost ontained in the Bid are rice or any breakdown eto, to any corporation, any member or agent
Any person executing this declarate venture, limited liability comparepresents that he or she has full of the Bidder.	ny, limited liability p	artnership, or any	other entity, hereby
I declare under penalty of perjury true and correct and that [city],	this <mark>de</mark> claration is	executed on	
Name of Bidder			
Signature			
Name			
Title			

(Public Contract Code section 2200 et seq.)
As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 <i>et seq.</i>) is true and correct:
☐ The Contractor is not:
 identified on the current list of person and entities engaged in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or
(2) a financial instruction that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.
The Agency has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the Agency will be unable to obtain the goods and/or services to be provided pursuant to the Contract.
☐ The amount of the Contract payable to the Contractor for the Project does not exceed \$1,000,000.
Signature:
Printed Name:
Title:
Firm Name:
Date:

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on contracts for three years.

1.6

Iran Contracting Act Certification.

1.7 Public Works Contractor Registration Certification

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See http://www.dir.ca.gov/Public-Works.html for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.

Name of Bidder:

		DIR Registration Number:
		DIR Registration Expiration:
Bidder furthe	er .	acknowledges:
1		Bidder shall maintain a current DIR registration for the duration of the project.
2		Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.7 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.
3		Failure to submit this form or comply with any of the above requirements may resul in a finding that the bid is non-responsive.
Name of Bid	lde	er
Signature		
Name and T	itle	e
Dated		

1.8 <u>Contractor's Certificate Regarding Workers' Compensation</u>.

I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

Name of Bidder	
Signature	
Name	
Title	
Dated	



1.9 Fleet Compliance Certification

policies, rules and regulations and are familiar with the requirements of Title 13, California Code of Regulations, Division 3, Chapter 9, effective on January 1, 2024 (the "Regulation"). Bidder hereby certifies, subject to penalty for perjury, that the option checked below relating to the Bidder's fleet, and/or that of their subcontractor(s) ("Fleet") is true and correct: The Fleet is subject to the requirements of the Regulation, and the appropriate Certificate(s) of Reported Compliance have been attached hereto. The Fleet is exempt from the Regulation under section 2449.1(f)(2), and a signed description of the subject vehicles, and reasoning for exemption has been attached hereto. □ Bidder and/or their subcontractor is unable to procure R99 or R100 renewable diesel fuel as defined in the Regulation pursuant to section 2449.1(f)(3). Bidder shall keep detailed records describing the normal refueling methods, their attempts to procure renewable diesel fuel and proof that shows they were not able to procure renewable diesel (i.e. third party correspondence or vendor bids). The Fleet is exempt from the requirements of the Regulation pursuant to section 2449(i)(4) because this Project has been deemed an Emergency, as defined under section 2449(c)(18). Bidder shall only operate the exempted vehicles in the emergency situation and records of the exempted vehicles must be maintained, pursuant to section 2449(i)(4). The Fleet does not fall under the Regulation or are otherwise exempted and a detailed reasoning is attached hereto. Name of Ridder:

Bidder hereby acknowledges that they have reviewed the California Air Resources Board's

Name of blood	5I	
Signature:		
Name:		
Title:		
Date:		

1.10 Anti-Loobbying Certification.

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. A copy of this form is included as part of the EPA Funding Requirements section of the Contract Documents.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including sub-contracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Typed Name & Title of Authorized Representative	
Signature and Date of Authorized Representative	

1.11 Debarment and Suspension Certification

Contractors, Subcontractors, Debarment and Suspension, Executive Order 12549; 2 CFR Part 180; 2 CFR Part 1532

Contractor certifies that it and its principals, and shall obtain certifications from its subcontractors that they and their principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or agency;
- (b) Have not within a three (3) year period preceding this procurement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three (3) year period preceding this application/proposal had one or more public transactions (federal, state or local) terminated for cause or default.
- (e) Suspension and debarment information can be accessed at http://www.sam.gov. Contractor represents and warrants that it has or will include a term or conditions requiring compliance with this provision in all of its contracts and subcontracts under this Agreement.
- (f) Contractor acknowledges that failing to disclose the information as required at 2 CFR 180.335 may result in the termination, delay or negation of any Contract entered into pursuant to this procurement, or pursuance of legal remedies, including suspension and debarment.

Name of Bidder			
Signature			
Name			
Title			
Dated			

1.12 Executive Order N-6-22 Certification

Executive Order N-6-22 issued by Governor Gavin Newsom on March 4, 2022, directs all agencies and departments that are subject to the Governor's authority to (a) terminate any contracts with any individuals or entities that are determined to be a target of economic sanctions against Russia and Russian entities and individuals; and (b) refrain from entering into any new contracts with such individuals or entities while the aforementioned sanctions are in effect.

Executive Order N-6-22 also requires that any contractor that: (1) currently has a contract with BWD funded through grant funds provided by the State of California; and/or (2) submits a bid or proposal or otherwise proposes to or enter into or renew a contract with the BWD funded by State of California grant funds, certify that the person is not the target of any economic sanctions against Russia and Russian entities and individuals.

The contractor hereby certifies, SUBJECT TO PENALTY FOR PERJURY, that a) the contractor is not a target of any economic sanctions against Russian and Russian entities and individuals as discussed in Executive Order N-6-22 and b) the person signing below is duly authorized to legally bind the Contractor. This certification is made under the laws of the State of California.

Signature:	
Printed Name:	
Title:	
Firm Name:	
Date:	

00 52 13 - CONTRACT

This CONTRACT, No is made and entered into this day of,, by and between San Gorgonio Pass Water Agency, sometimes hereinafter called "Agency," and , sometimes hereinafter called
"Contractor."
WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other as follows:
a. SCOPE OF WORK. The Contractor shall perform all Work within the time stipulated in the Contract, and shall provide all labor, materials, equipment, tools, utility services, and transportation to complete all of the Work required in strict compliance with the Contract Documents as specified in Article 5, below, for the following Project:
COUNTY LINE RECHARGE BASIN PROJECT
The Contractor and its surety shall be liable to the Agency for any damages arising as a result of the Contractor's failure to comply with this obligation.
b. TIME FOR COMPLETION. Time is of the essence in the performance of the Work. The Work shall be commenced on the date stated in the Agency's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within _270 calendar days from the commencement date stated in the Notice to Proceed. By its signature hereunder, Contractor agrees the time for completion set forth above is adequate and reasonable to complete the Work.
Target Milestones
The milestones identified below shall be prioritized in the project schedule in an effort to complete said tasks by the respective target completion dates.
 County Line Road Excavations: All work which requires excavations within County Line Road, including but not limited construction of utility vaults, removal of valves and fittings, pipeline CIPP lining-related initial inspections, point repairs, and surface restorations shall be prioritized pursuant to Owner's coordination with the City of Yucaipa. Target Completion Date: September 30, 2025
 Raw Waterline Extension: Pipeline work within 4th Street, specifically related to the Calimesa Creek crossing, shall be prioritized pursuant to Riverside County Flood Control & Water Conservation District encroachment permit no. 5-0-00160-4240. Target Completion Date: November 7, 2025
c. CONTRACT PRICE. The Agency shall pay to the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of Dollars
(\$). Payment shall be made as set forth in the General Conditions.
CONTINUED IN CONTI

- d. **LIQUIDATED DAMAGES.** In accordance with Government Code section 53069.85, it is agreed that the Contractor will pay the Agency the sum set forth in Section 00 73 13, Article 1.11 for each and every calendar day of delay beyond the time prescribed in the Contract Documents for finishing the Work, as Liquidated Damages and not as a penalty or forfeiture. In the event this is not paid, the Contractor agrees the Agency may deduct that amount from any money due or that may become due the Contractor under the Contract. This Article does not exclude recovery of other damages specified in the Contract Documents.
- e. **COMPONENT PARTS OF THE CONTRACT.** The "Contract Documents" include the following:

Notice Inviting Bids

Instructions to Bidders

Bid Form

Bid Bond

Designation of Subcontractors

Information Required of Bidders

Non-Collusion Declaration Form

Iran Contracting Act Certification

Fleet Compliance Certification Form

Public Works Contractor Registration Certification

Debarment and Suspension Certification

Anti-Lobbying Certification

Executive Order N-22 Certification

Performance Bond

Payment (Labor and Materials) Bond

General Conditions

Funding Requirements (Exhibit "B")

Special Conditions

Technical Specifications

Addenda

Plans and Drawings

Applicable Local Agency Standards and Specifications, as last revised

Approved and fully executed change orders in the form provided in Exhibit "A"

Any other documents contained in or incorporated into the Contract

The Contractor shall complete the Work in strict accordance with all of the Contract Documents.

All of the Contract Documents are intended to be complementary. Work required by one of the Contract Documents and not by others shall be done as if required by all. This Contract shall supersede any prior agreement of the parties.

- f. **PROVISIONS REQUIRED BY LAW AND CONTRACTOR COMPLIANCE.** Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the California Labor Code and California Public Contract Code which are applicable to this Work.
- g. **INDEMNIFICATION.** Contractor shall provide indemnification and defense as set forth in the General Conditions.

h. **PREVAILING WAGES.** Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at the Agency's Administrative Office or may be obtained online at http://www.dir.ca.gov and which must be posted at the job site.

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	TNESS WHEREOF, this Contract has y and year above written.	been duly executed by the above-named parties, on
SAN (GORGONIO PASS WATER AGENCY	CONTRACTOR
Ву:	NAME AND TITLE	By: Its: Printed Name:
ATTE	ST:	
Ву:	Board Secretary	
-	TRACTOR'S SIGNATURE MUST BE	

END OF CONTRACT

SEAL AFFIXED, IF APPLICABLE)

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA COUNTY OF				
On	20	, before me,	, Notary Public, personally	
appeared			_, who proved to me on the basis of satisfactory	
evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/the signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, execute the instrument.				
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragrap is true and correct. WITNESS my hand and official seal.				
Signature of Notar	y Public			
		OPTION	AL	
Though the informati and could	on belov prevent	v is not required by law, it may fraudulent removal and reattac	prove valuable to persons relyi <mark>ng</mark> on the document chment of this form to another document.	
CAPACITY CLAIME	D BY	BIGNER	DESCRIPTION OF ATTACHED DOCUMENT	
☐ Individual☐ Corporate Officer				
Title(s)		Title or Type of Document	
□ Partner(s) □ □ Attorney-In-Fact □ Trustee(s)	Limi Gen	<u> </u>	Number of Pages	
☐ Guardian/Conservator ☐ Other: Signer is representing: Name Of Person(s) Or Entity(ies)			Date of Document	
			Signer(s) Other Than Named Above	

00 61 13 - BOND FORMS

1.1 <u>Performance Bond</u>.

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the San Gorgonio Pass Water Agency, (hereinafter referred to as "Agency") has awarded to, (hereinafter referred to as the "Contractor") an agreement for Contract No. , (hereinafter referred to as the "Project").				
WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and				
WHEREAS, the Contractor is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.				
NOW, THEREFORE, we,, the undersigned Contractor and as Surety, a corporation organized				
and duly authorized to transact business under the laws of the State of California, are held and				
firmly bound unto the Agency in the sum of DOLLARS,				
(\$), said su <mark>m</mark> be <mark>in</mark> g not le <mark>ss</mark> than on <mark>e hu</mark> ndred p <mark>ercent (100%) of the total amount</mark>				
of the Contr <mark>act</mark> , for whi <mark>ch amount well</mark> and truly to be made, we bind ourselves, our heirs,				
executors and administrators, successors and assig <mark>ns</mark> , jointly and severally, firmly by these				
presents.				

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one (1) year guarantee of all materials and workmanship; and shall indemnify and save harmless the Agency, its officials, officers, employees, and authorized volunteers, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by Agency in enforcing such obligation.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the above obligation shall hold good for a period of one (1) year after the acceptance of the work by Agency, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the Agency from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the Agency's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure Section 337.15.

Whenever Contractor shall be, and is declared by the Agency to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the Agency's option:

- i. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
- ii. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and the Agency, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the Agency under the Contract and any modification thereto, less any amount previously paid by the Agency to the Contractor and any other set offs pursuant to the Contract Documents.
- iii. Permit the Agency to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the Agency under the Contract and any modification thereto, less any amount previously paid by the Agency to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the Agency may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the Agency, when declaring the Contractor in default, notifies Surety of the Agency's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS WHEREOF, we have hereunto s, 20	set our hands and seals this day of		
(Corporate Seal)	Contractor/ Principal		
	Ву		
	Title		
(Corporate Seal)	Surety		
	ByAttorney-in-Fact		
(Attach Attorney-in-Fact Certificate)	Title		
The rate of premium on this bond is	ey.)		
Representative for service of process in California, if different from above)			
(Telephone number of Surety and Agent or Representative for service of process in California)			

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA COUNTY OF				
	, Notary Public, personally			
appeared	, who proved to me on the basis of satisfactory			
evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.				
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.				
WITNESS my hand and official seal. Signature of Notary Public OPTIONAL Though the information below is not required by law, it may prove valuable to persons relying on the document				
and could prevent fraudulent removal a <mark>nd</mark>	and could prevent fraudulent removal and reattachment of this form to another document.			
CAPACITY CLAIMED BY SIGNER	DESCRIPTION OF ATTACHED DOCUMENT			
□ Individual □ Corporate Officer				
Title(s)	Title or Type of Document			
□ Partner(s) □ Limited □ General □ Attorney-In-Fact □ Trustee(s)	Number of Pages			
☐ Guardian/Conservator ☐ Other: Signer is representing: Name Of Person(s) Or Entity(ies)	Date of Document			
	Signer(s) Other Than Named Above			

NOTE: This acknowledgment is to be completed for Contractor/Principal.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document. STATE OF CALIFORNIA COUNTY OF _____ _____, 20___, before me, ______, Notary Public, personally , who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. Signature of Notary Public **OPTIONAL** Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document. CAPACITY CLAIMED BY SIGNER DESCRIPTION OF ATTACHED DOCUMENT □ Corporate Officer Title(s) Title or Type of Document □ Partner(s) Limited Number of Pages General □ Trustee(s) ☐ Guardian/Conservator Date of Document

Notary Acknowledgment

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of Attorney to local representatives of the bonding company must also be attached.

□ Other:

Signer is representing: Name Of Person(s) Or Entity(ies)

END OF PERFORMANCE BOND

Signer(s) Other Than Named Above

1.2 Payment Bond (Labor and Materials).

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the San Gorgonio Pass Wate	r Agency (nereinaπe	r designated	as the "	Agency",), by
action taken or a resolution passed $_$, 20	_, has	awarded	d to
hereinafter	designated as the "l	Principal," a d	contract	for the v	vork
described as follows: Contract No.	(the "Projec	t"); and			

WHEREAS, said Principal is required to furnish a bond in connection with said contract; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies 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 Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and ______ as Surety, are held and firmly bound unto the Agency in the penal sum of _____ Dollars (\$_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Civil Code Section 9100, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Revenue and Taxation Code Section 18663, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the Agency in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that

this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the owner or Agency and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Civil Code Section 9100, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned, including but not limited to the provisions of sections 2819 and 2845 of the California Civil Code.

IN WITNESS WHEREOF, we have hereunto se, 20	et our hands and seals this day of
(Corporate Seal)	Contractor/ Principal By
(Corporate Seal)	TitleSurety
	By Attorney-in-Fact
(Attach Attorney-in-Fact Certificate)	Title

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA COUNTY OF			
On, 20, b	efore me,	, Notary Public, personally	
appeared		, who proved to me on the basis of satisfactory	
me that he/she/they executed the	same in his/her/their	ribed to the within instrument and acknowledged to authorized capacity(ies), and that by his/her/their upon behalf of which the person(s) acted, executed	
I certify under PENALTY OF PERJU is true and correct.	URY under the laws of	the State of California that the foregoing paragraph	
WITNESS my hand and official seal. Signature of Notary Public OPTIONAL			
Though the information below is and could prevent fra	s not required by la <mark>w,</mark> it may audulent removal and reattac	prov <mark>e v</mark> alua <mark>ble</mark> to persons relyin <mark>g o</mark> n the document hment of th <mark>is f</mark> orm to another do <mark>cu</mark> ment.	
CAPACITY CLAIMED BY SIG	NER	DESCRIPTION OF ATTACHED DOCUMENT	
☐ Individual☐ Corporate Officer			
Title(s)		Title or Type of Document	
☐ Partner(s) ☐ Limited☐ ☐ General☐ Attorney-In-Fact☐ Trustee(s)	<u></u>	Number of Pages	
☐ Guardian/Conservator ☐ Other: Signer is representing: Name Of Person(s) Or Entity(ies)		Date of Document	
		Signer(s) Other Than Named Above	

NOTE: This acknowledgment is to be completed for Contractor/Principal.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document. STATE OF CALIFORNIA COUNTY OF _____ _____, 20___, before me, ______, Notary Public, personally ____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. Signature of Notary Public **OPTIONAL** Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document. CAPACITY CLAIMED BY SIGNER DESCRIPTION OF ATTACHED DOCUMENT □ Corporate Officer Title(s) Title or Type of Document

Notary Acknowledgment

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of-Attorney to local representatives of the bonding company must also be attached.

Number of Pages

Date of Document

Signer(s) Other Than Named Above

□ Partner(s)

□ Other:

☐ Attorney-In-Fact☐ Trustee(s)

☐ Guardian/Conservator

Signer is representing: Name Of Person(s) Or Entity(ies) Limited

General

END OF PAYMENT BOND

00 72 13 - GENERAL CONDITIONS

ARTICLE 1. DEFINED TERMS

Whenever used in the Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined below, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

- A. Act of God An earthquake of magnitude of 3.5 or higher on the Richter scale or a tidal wave.
- B. <u>Addenda</u> -- Written or graphic instruments issued prior to the submission of Bids which clarify, correct, or change the Contract Documents.
- C. <u>Additional Work</u> -- New or unforeseen work will be classified as "Additional Work" when the Agency's Representative determines that it is not covered by the Contract.
- D. <u>Applicable Laws</u> -- The laws, statutes, ordinances, rules, codes, regulations, permits, and <u>licenses of</u> any kind, issued by local, state or federal governmental authorities or private authorities with jurisdiction (including utilities), to the extent they apply to the Work.
- E. <u>Bid</u> -- The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices and other terms for the Work to be performed.
- F. <u>Bidder</u> -- The individual or entity who submits a Bid directly to the Agency.
- G. Board of Directors, Board -- The Board of Directors of the Agency.
- H. <u>Change Order ("CO")</u> -- A document that authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Contract, in accordance with the Contract Documents and in the form contained in the Contract Documents.
- I. <u>Change Order Request ("COR")</u> -- A request made by the Contractor for an adjustment in the Contract Price and/or Contract Times as the result of a Contractor-claimed change to the Work. This term may also be referred to as a Change Order Proposal ("COP"), or Request for Change ("RFC").
- J. <u>Claim</u> -- A demand or assertion by the Agency or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
- K. <u>Contract</u> -- The entire integrated written agreement between the Agency and Contractor concerning the Work. "Contract" may be used interchangeably with "Agreement" in the Contract Documents. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral, and includes all Contract Documents.

- L. <u>Contract Documents</u> -- The documents listed in Section 00 52 13, Article 5. Some documents provided by the Agency to the Bidders and Contractor, including but not limited to reports and drawings of subsurface and physical conditions are not Contract Documents.
- M. <u>Contract Price</u> -- Amount to be paid by the Agency to the Contractor as full compensation for the performance of the Contract and completion of the Work, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs.
- N. <u>Contract Times</u> -- The number of days or the dates stated in the Contract Documents to: achieve defined Milestones, if any; and to complete the Work so that it is ready for final payment.
- O. <u>Contractor</u> -- The individual or entity with which the Agency has contracted for performance of the Work.
- P. <u>Contractor's Designated On-Site Representative</u> -- The Contractor's Designated On-Site Representative will be as identified in Section 00 72 13, Article 3 and shall not be changed without prior written consent of the Agency.
- Q. <u>Daily Rate</u> -- The Daily Rate stipulated in the Contract Documents as full compensation to the Contractor due to the Agency's unreasonable delay to the Project that was not contemplated by the parties.
- R. Day -- A calendar day of 24 hours measured from midnight to the next midnight.
- S. <u>Defective Work</u> -- Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referenced in the Contract Documents.
- T. <u>Demobilization</u> -- The complete dismantling and removal by the Contractor of all of the Contractor's temporary facilities, equipment, and personnel at the Site.
- U. Agency -- The San Gorgonio Pass Water Agency.
- V. <u>Agency's Representative</u> -- The individual or entity as identified in the Special Conditions to act as the Agency's Representative.
- W. <u>Drawings</u> -- That part of the Contract Documents prepared by of the Engineer of Record which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
- X. <u>Effective Date of the Contract</u> -- The date indicated in the Contract on which it becomes effective, but if no such date is indicated, it means the date on which the Contract is signed and delivered by the last of the two parties to sign and deliver.
- Y. <u>Engineer</u>, whenever not qualified, shall mean the General Manager/Chief Engineer of the Agency, acting either directly or through properly authorized agents, such agents

acting severally within the scope of the particular duties entrusted to them. On all questions concerning the acceptance of materials, machinery, the classifications of material, the execution of work, conflicting interest of the contractors performing related work and the determination of costs, the decision of the Engineer, duly authorized by the Board of Directors, shall be binding and final upon both parties.

- Z. <u>Engineer of Record</u> -- The individual, partnership, corporation, joint venture, or other legal entity named as such in Section 00 73 13, Article 1.1. or any succeeding entity designated by the Agency.
- AA. <u>Hazardous Waste</u> -- The term "Hazardous Waste" shall have the meaning provided in Section 104 of the Solid Waste Disposal Act (42 U.S.C. § 6903) as amended from time to time or, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a class I, class II, or class III disposal site in accordance with provisions of existing law, whichever is more restrictive.

BB. Holiday - The Holidays occur on:

New Year's Day - January 1
President's Day - Third Monday in February
Memorial Day - Last Monday in May
Independence Day - July 4
Labor Day - First Monday in September
Veteran's Day - November 11
Thanksgiving Day - Fourth Thursday in November
Friday after Thanksgiving
Christmas Eve - December 24
Christmas Day - December 25
Day After Christmas - December 26
New Year's Eve - December 31

If any Holiday listed above falls on a Saturday, Saturday and the preceding Friday are both Holidays. If the Holiday should fall on a Sunday, Sunday and the following Monday are both Holidays.

- CC. <u>Notice of Award</u> -- The written notice by the Agency to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, the Agency will sign and deliver the Contract.
- DD. <u>Notice of Completion</u> -- The form which may be executed by the Agency and recorded by the county where the Project is located constituting final acceptance of the Project.
- EE. <u>Notice to Proceed</u> -- A written notice given by the Agency to Contractor fixing the date on which the Contractor may proceed with the Work and when Contract Times will commence to run.
- FF. <u>Project</u> -- The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

- GG. <u>Recyclable Waste Materials</u> -- Materials removed from the Site which are required to be diverted to a recycling center rather than an area landfill. Recyclable Waste Materials include asphalt, concrete, brick, concrete block, and rock.
- HH. <u>Schedule of Submittals</u> -- A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to facilitate scheduled performance of related construction activities.
- II. <u>Shop Drawings</u> -- All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
- JJ. <u>Specifications</u> -- That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
- KK. Stop Payment Notice -- A written notice as defined in Civil Code section 8044.
- LL. <u>Subcontractor</u> -- An individual or entity other than a Contractor having a contract with any other entity than the Agency for performance of any portion of the Work at the Site.
- MM. <u>Submittal</u> -- Written and graphic information and physical samples prepared and supplied by the Contractor demonstrating various portions of the Work.
- NN. <u>Successful Bidder</u> -- The Bidder submitting a responsive Bid to whom the Agency makes an award.
- OO. <u>Supplier</u> -- A manufacturer, fabricator, supplier, distributor, material man, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment used in the performance of the Work or to be incorporated in the Work.
- PP.<u>Underground Facilities</u> -- All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
- QQ. <u>Unit Price Work</u> -- Work to be paid for on the basis of unit prices as provided by the Contractor in its bid or as adjusted in accordance with the Contract Documents.
- RR. <u>Warranty</u> -- A written guarantee provided to the Agency by the Contractor that the Work will remain free of defects and suitable for its intended use for the period required by the Contract Documents or the longest period permitted by the law of this State, whichever is longer.
- SS.<u>Work</u> -- The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce

such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

ARTICLE 2. CONTRACT DOCUMENTS

- A. **Contract Documents.** The Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all.
- B. **Interpretations.** The Contract Documents are intended to be fully cooperative and complementary. If the Contractor observes that any documents are in conflict, the Contractor shall promptly notify the Engineer in writing. In case of conflicts between the Contract Documents, the order of precedence shall be as follows:
 - 1. Change Orders
 - 2. Addenda
 - 3. Technical Specifications
 - 4. Special Conditions
 - 5. Plans (Contract Drawings)
 - 6. Contract
 - 7. General Conditions
 - 8. Instructions to Bidders
 - 9. Notice Inviting Bids
 - 10. Contractor's Bid Forms
 - 11. Applicable Local Agency Standards and Specifications
 - 12. Standard Plans

With reference to the Drawings, the order of precedence shall be as follows:

- 1. Figures govern over scaled dimensions
- 2. Detail drawings govern over general drawings
- 3. Addenda or Change Order drawings govern over Contract Drawings
- 4. Contract Drawings govern over Standard Drawings
- 5. Contract Drawings govern over Shop Drawings
- C. **Conflicts in Contract Documents.** Notwithstanding the orders of precedence established above, in the event of conflicts, the higher standard and higher quality shall always apply.
- D. **Organization of Contract Documents.** Organization of the Contract Documents into divisions, sections, and articles, and arrangement of drawings shall not control the Contractor in dividing Project Work among subcontractors or in establishing the extent of Work to be performed by any trade.

ARTICLE 3. PRECONSTRUCTION AND CONSTRUCTION COMMUNICATION

Before any Work at the site is started, a conference attended by the Agency, Contractor, Agency's Representative, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to herein, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

At this conference the Agency and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

ARTICLE 4. CONTRACT DOCUMENTS: COPIES & MAINTENANCE

Contractor will be furnished, free of charge, **five (5)** copies of the Contract Documents. Additional copies may be obtained at cost of reproduction.

Contractor shall maintain a clean, undamaged set of Contract Documents, including submittals, at the Project site.

ARTICLE 5. EXAMINATION OF DRAWINGS, SPECIFICATIONS AND SITE OF WORK

- A. Examination of Contract Documents. Before commencing any portion of the Work, Contractor shall again carefully examine all applicable Contract Documents, the Project site, and other information given to Contractor as to materials and methods of construction and other Project requirements. Contractor shall immediately notify the Engineer of any potential error, inconsistency, ambiguity, conflict, or lack of detail or explanation. If Contractor performs, permits, or causes the performance of any Work which is in error, inconsistent or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all resulting costs, including, without limitation, the cost of correction. In no case shall the Contractor or any subcontractor proceed with Work if uncertain as to the applicable requirements.
- B. Additional Instructions. After notification of any error, inconsistency, ambiguity, conflict, or lack of detail or explanation, the Engineer will provide any required additional instructions, by means of drawings or other written direction, necessary for proper execution of Work.
- C. **Quality of Parts, Construction and Finish.** All parts of the Work shall be of the best quality of their respective kinds and the Contractor must use all diligence to inform itself fully as to the required construction and finish.
- D. Contractor's Variation from Contract Document Requirements. If it is found that the Contractor has varied from the requirements of the Contract Documents including the requirement to comply with all applicable laws, ordinances, rules and regulations, the Engineer may at any time, before or after completion of the Work, order the improper Work removed, remade or replaced by the Contractor at the Contractor's expense.

ARTICLE 6. MOBILIZATION

A. When a bid item is included in the Bid Form for mobilization, the costs of Work in advance of construction operations and not directly attributable to any specific bid item will be included in the progress estimate ("Initial Mobilization"). When no bid item is provided for "Initial Mobilization," payment for such costs will be deemed to be included in the other items of the Work.

- B. Payment for Initial Mobilization based on the lump sum provided in the Bid Form, which shall constitute full compensation for all such Work. No payment for Initial Mobilization will be made until all of the listed items have been completed to the satisfaction of the Engineer. The scope of the Work included under Initial Mobilization shall include, but shall not be limited to, the following principal items:
 - 1. Obtaining and paying for all bonds, insurance, and permits.
 - 2. Moving on to the Project site of all Contractor's plant and equipment required for the first month's operations.
 - 3. Installing temporary construction power, wiring, and lighting facilities, as applicable.
 - 4. Establishing fire protection system, as applicable.
 - 5. Developing and installing a construction water supply, if applicable.
 - 6. Providing and maintaining the field office trailers for the Contractor, if necessary, and the Engineer (if specified), complete, with all specified furnishings and utility services.
 - 7. Providing on-site sanitary facilities and potable water facilities as specified per Cal-OSHA and these Contract Documents.
 - 8. Furnishing, installing, and maintaining all storage buildings or sheds required for temporary storage of products, equipment, or materials that have not yet been installed in the Work. All such storage shall meet manufacturer's specified storage requirements, and the specific provisions of the specifications, including temperature and humidity control, if recommended by the manufacturer, and for all security.
 - 9. Arranging for and erection of Contractor's work and storage yard.
 - 10. Posting all OSHA required notices and establishment of safety programs per Cal-OSHA.
 - 11. Full-time presence of Contractor's superintendent at the job site as required herein.
 - 12. Submittal of Construction Schedule as required by the Contract Documents.

ARTICLE 7. EXISTENCE OF UTILITIES AT THE WORK SITE

- A. The Agency has endeavored to determine the existence of utilities at the Project site from the records of the owners of known utilities in the vicinity of the Project. The positions of these utilities as derived from such records are shown on the Plans.
- B. Unless indicated otherwise on the Plans and Specifications, no excavations were made to verify the locations shown for underground utilities. The service connections to these utilities are not shown on the Plans. Water service connections may be shown on the Plans showing general locations of such connections. It shall be the

responsibility of the Contractor to determine the exact location of all service connections. The Contractor shall make its own investigations, including exploratory excavations, to determine the locations and type of service connections, prior to commencing Work which could result in damage to such utilities. The Contractor shall immediately notify the Agency in writing of any utility discovered in a different position than shown on the Plans or which is not shown on the Plans.

- C. If applicable, all water meters, water valves, fire hydrants, electrical utility vaults, telephone vaults, gas utility valves, and other subsurface structures shall be relocated or adjusted to final grade by the Contractor. Locations of existing utilities shown on the Plans are approximate and may not be complete. The Contractor shall be responsible for coordinating its Work with all utility companies during the construction of the Work.
- D. Notwithstanding the above, pursuant to section 4215 of the Government Code, the Agency has the responsibility to identify, with reasonable accuracy, main or trunkline facilities on the plans and specifications. In the event that main or trunkline utility facilities are not identified with reasonable accuracy in the plans and specifications made a part of the invitation for Bids, the Agency shall assume the responsibility for their timely removal, relocation, or protection.
- E. Contractor, except in an emergency, shall contact the appropriate regional notification center, Southern California Underground Service Alert at 811 or 1-800-227-2600 or on-line at www.digalert.org at least two working days prior to commencing any excavation if the excavation will be performed in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the Agency, and obtain an inquiry identification number from that notification center. No excavation shall be commenced or carried out by the Contractor unless such an inquiry identification number has been assigned to the Contractor or any subcontractor of the Contractor and the Agency has been given the identification number by the Contractor.

ARTICLE 8. SOILS INVESTIGATIONS

- A. Reports and Drawings. The Special Conditions identify:
 - 1. those reports known to the Agency of explorations and tests of subsurface conditions at or contiguous to the site; and
 - 2. those drawings known to the Agency of physical conditions relating to existing surface or subsurface structures at the site (except Underground Facilities).
- B. <u>Limited Reliance by Contractor on Technical Data Authorized</u>. Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, which were expressly not created or obtained to evaluate or assist in the evaluation of constructability, and are not Contract Documents. Contractor shall make its own interpretation of the "technical data" and shall be solely responsible for any such interpretations. Except for reliance on the accuracy of such "technical data," Contractor may not rely upon or make any claim against the Agency, Agency's Representative, or Engineer of Record, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

- 1. the completeness of such reports and drawings for Contractor's purposes, including without limitation any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- 2. other data, interpretations, opinions, conclusions and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

ARTICLE 9. CONTRACTOR'S SUPERVISION

Contractor shall continuously keep at the Project site, a competent and experienced full-time Project superintendent acceptable to the Agency. Superintendent must be able to proficiently speak, read and write in English and shall have the authority to make decisions on behalf of the Contractor. Contractor shall continuously provide efficient supervision of the Project.

ARTICLE 10. WORKERS

- A. Contractor shall at all times enforce strict discipline and good order among its employees. Contractor shall not employ on the Project any unfit person or any one not skilled in the Work assigned to him or her.
- B. Any person in the employ of the Contractor whom the Agency may deem incompetent or unfit shall be dismissed from the Work and shall not be employed on this Project.

ARTICLE 11. INDEPENDENT CONTRACTORS

Contractor shall be an independent contractor for the Agency and not an employee. Contractor understands and agrees that it and all of its employees shall not be considered officers, employees, or agents of Agency and are not entitled to benefits of any kind normally provided employees of Agency, including but not limited to, state unemployment compensation or workers' compensation. Contractor assumes full responsibility for the acts and omissions of its employees or agents related to the Work.

ARTICLE 12. SUBCONTRACTS

- A. Contractor agrees to bind every subcontractor to the terms of the Contract Documents as far as such terms are applicable to subcontractor's portion of the Work. Contractor shall be as fully responsible to the Agency for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by its subcontractors, as Contractor is for acts and omissions of persons directly employed by Contractor. Nothing contained in these Contract Documents shall create any contractual relationship between any subcontractor and the Agency.
- B. The Agency reserves the right to accept all subcontractors. The Agency's acceptance of any subcontractor under this Contract shall not in any way relieve Contractor of its obligations in the Contract Documents.

C. Prior to substituting any subcontractor listed in the Bid Forms, Contractor must comply with the requirements of the Subletting and Subcontracting Fair Practices Act pursuant to California Public Contract Code section 4100 et seq.

ARTICLE 13. VERIFICATION OF EMPLOYMENT ELIGIBILITY

By executing this Contract, Contractor verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time, and shall require all subcontractors, sub-subcontractors and consultants to comply with the same. Each person executing this Contract on behalf of Contractor verifies that he or she is a duly authorized officer of Contractor and that any of the following shall be grounds for the Agency to terminate the Contract for cause: (1) failure of the Contractor or its subcontractors, sub-subcontractors or consultants to meet any of the requirements provided for in this Article; (2) any misrepresentation or material omission concerning compliance with such requirements; or (3) failure to immediately remove from the Work any person found not to be in compliance with such requirements.

ARTICLE 14. REQUESTS FOR SUBSTITUTION

- A. For the purposes of this provision, the term "substitution" shall mean the substitution of any material, method or service substantially equal to or better in every respect to that indicated in the Specifications or otherwise referenced herein.
- B. Pursuant to Public Contract Code section 3400(b), the Agency may make a finding that is described in the Notice Inviting Bids that designates certain products, things, or services by specific brand or trade name.
- C. Unless specifically designated in the Special Conditions, whenever any material, process, or article is indicated or specified by grade, patent, or proprietary name or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating the description of the material, process, or article desired and shall be deemed to be followed by the words "or equal." Contractor may, unless otherwise stated, offer for substitution any material, process, or article which may be substantially equal to or better in every respect to that so indicated or specified in the Contract Documents. However, the Agency has adopted uniform standards for certain materials, processes, and articles.
- D. The Contractor shall submit substitution requests, together with substantiating data, for substitution of any "or equal" material, process, or article no later than thirty-five (35) calendar days after award of Contract. Provisions regarding submission of substitution requests shall not in any way authorize an extension of time for the performance of this Contract. If a substitution request is rejected by the Agency, the Contractor shall provide the material, method or service specified herein. The Agency shall not be responsible for any costs incurred by the Contractor associated with substitution requests. The burden of proof as to the equality of any material, process, or article shall rest with the Contractor. The Engineer has the complete and sole discretion to determine if a material, process, or article is substantially equal to or better than that specified and to approve or reject all substitution requests.

- E. Substantiating data as described above shall include, at a minimum, the following information:
 - 1. A signed affidavit from the Contractor stating that the material, process, or article proposed as a substitution is substantially equal to or better than that specified in every way except as may be listed on the affidavit.
 - 2. Illustrations, specifications, catalog cut sheets, and any other relevant data required to prove that the material, process, or article is substantially equal to or better than that specified.
 - 3. A statement of the cost implications of the substitution being requested, indicating whether and why the proposed substitution will reduce or increase the amount of the contract.
 - 4. Information detailing the durability and lifecycle costs of the proposed substitution.
- F. Failure to submit all the required substantiating data detailed above in a timely manner so that the substitution request can be adequately reviewed may result in rejection of the substitution request. The Engineer is not obligated to review multiple submittals related the same substitution request resulting from the Contractor's failure to initially submit a complete package.
- G. Time limitations within this Article shall be strictly complied with and in no case will an extension of time for completion of the contract be granted because of Contractor's failure to provide substitution requests at the time and in the manner described herein.
- H. The Contractor shall bear the costs of all Agency work associated with the review of substitution requests.
- I. If substitution requests approved by the Engineer require that Contractor furnish materials, methods or services more expensive than that specified, the increased costs shall be borne by Contractor.

ARTICLE 15. SHOP DRAWINGS

- A. Contractor shall check and verify all field measurements and shall submit with such promptness as to provide adequate time for review and cause no delay in its own Work or in that of any other contractor, subcontractor, or worker on the Project, six (6) copies of all shop drawings, calculations, schedules, and materials list, and all other provisions required by the Contract Documents. Contractor shall sign all submittals affirming that submittals have been reviewed and approved by Contractor prior to submission to Engineer. Each signed submittal shall affirm that the submittal meets all the requirements of the Contract Documents except as specifically and clearly noted and listed on the transmittal letter of the submittal.
- B. Contractor shall make any corrections required by the Engineer, and file with the Engineer six (6) corrected copies each, and furnish such other copies as may be needed for completion of the Work. Engineer's acceptance of shop drawings shall not relieve Contractor from responsibility for deviations from the Contract Documents unless Contractor has, in writing, called Engineer's attention to such deviations at time

of submission and has secured the Engineer's written acceptance. Engineer's acceptance of shop drawings shall not relieve Contractor from responsibility for errors in shop drawings.

ARTICLE 16. SUBMITTALS

- A. Contractor shall furnish to the Engineer for approval, prior to purchasing or commencing any Work, a log of all samples, material lists and certifications, mix designs, schedules, and other submittals, as required in the Contract Documents. The log shall indicate whether samples will be provided in accordance with other provisions of this Contract.
- B. Contractor will provide samples and submittals, together with catalogs and supporting data required by the Engineer, to the Engineer within a reasonable time period to provide for adequate review and avoid delays in the Work.
- C. These requirements shall not authorize any extension of time for performance of this Contract. Engineer will check and approve such samples, but only for conformance with design concept of work and for compliance with information given in the Contract Documents. Work shall be in accordance with approved samples and submittals.

ARTICLE 17. MATERIALS

- A. Except as otherwise specifically stated in the Contract Documents, Contractor shall provide and pay for all materials, labor, tools, equipment, lights, power, transportation, superintendence, temporary constructions of every nature, and all other services and facilities of every nature whatsoever necessary to execute and complete this Contract within specified time.
- B. Unless otherwise specified, all materials shall be new and the best of their respective kinds and grades as noted and/or specified, and workmanship shall be of good quality.
- C. Materials shall be furnished in ample quantities and at such times as to ensure uninterrupted progress of the Work and shall be stored properly and protected as required by the Contract Documents. Contractor shall be entirely responsible for damage or loss by weather or other causes to materials or Work.
- D. No materials, supplies, or equipment for Work under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the Work and agrees upon completion of all work to deliver the Project, to the Agency free from any claims, liens, or charges.
- E. Materials shall be stored on the Project site in such manner so as not to interfere with any operations of the Agency or any independent contractor.
- F. Contractor shall verify all measurements, dimensions, elevations, and quantities before ordering any materials or performing any Work, and the Agency shall not be liable for Contractor's failure to so. No additional compensation, over and above payment for the actual quantities at the prices set out in the Bid Form, will be allowed

because of differences between actual measurements, dimension, elevations and quantities and those indicated on the Plans and in the Specifications. Any difference therein shall be submitted to the Engineer for consideration before proceeding with the Work

ARTICLE 18. PERMITS AND LICENSES

- A. The Agency shall apply for and pay all fees associated with the review and approval of Contract Drawings for Work within the public rights-of-way. The Contractor shall be responsible for obtaining all required encroachment permits and scheduling related inspections; however, such encroachment permit and related inspection fees shall be reimbursed to the Contractor at actual cost under the specified allowance. The Contractor shall obtain and pay for all permits and licenses required for the construction of the Project, including but not limited to traffic control plans (TCPs) and other Contractor-prepared plans. The Contractor shall also comply with all applicable laws, ordinances, rules, and regulations related to the Work and public health and safety. Prior to final acceptance of the Project, the Contractor shall submit copies of all permits, licenses, inspection certificates, and required approvals to the Agency.
- B. The Bid Form includes an allowance to cover the Contractor's actual costs for acquiring encroachment permits and related inspection fees charged by the applicable Agency of Jurisdiction. This allowance is provided to eliminate the need for bidders to research or estimate these specific costs when preparing their bids. The allowance is strictly limited to reimbursing the Contractor for these specific fees only. All other permits, licenses, and associated costs are the sole responsibility of the Contractor and shall not be reimbursed under this allowance. Reimbursement from the allowance will be made based on submittal of actual cost documentation, in accordance with the provisions of these specifications.

ARTICLE 19. TRENCHES

- A. Trenches Five Feet or More in Depth. Contractor shall submit to the Engineer at the preconstruction meeting, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from hazards of caving ground during the excavation of any trench or trenches five feet or more in depth. If such plan varies from shoring system standards established by the Construction Safety Orders of the California Code of Regulations, Department of Industrial Relations, the plan shall be prepared by a California registered civil or structural engineer. The plan shall not be less effective than the shoring, bracing, sloping, or other provisions of the Construction Safety Orders, as defined in the California Code of Regulations. The Contractor shall designate in writing the "competent person" as defined in Title 8, California Code of Regulations, who shall be present at the Work Site each day that trenching/excavation is in progress. The "competent person" shall prepare and provide daily trenching/excavation inspection reports to the Engineer. Contractor shall also submit a copy of its annual California Occupational Safety and Health Administration (Cal/OSHA) trench/excavation permit.
- B. **Excavations Deeper than Four Feet.** If the Work involves excavating trenches or other excavations that extend deeper than four feet below the surface, Contractor shall promptly, and before the excavation is further disturbed, notify the Agency in writing of any of the following conditions:

- Material that the Contractor believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
- 2. Subsurface or latent physical conditions at the site differing from those indicated.
- 3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract

The Agency shall promptly investigate the conditions, and if it finds that the conditions do so materially differ, or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a change order under the procedures described in the Contract Documents.

In the event that a dispute arises between the Agency and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the parties.

ARTICLE 20. TRAFFIC CONTROL

- A. Traffic control plan(s) for the Work may be required by the Agency(s) of Jurisdiction. Traffic control plans, if required, shall be prepared at Contractor's expense, and traffic control shall be performed at Contractor's expense in accordance with the requirements of the Agency(s) of Jurisdiction. The Permit and Inspection Allowance included within the Bid Form includes the cost of required traffic control permit(s) and construction inspection by the Agency(s) of Jurisdiction only. The Permit and Inspection Allowance does not include costs for preparation of any required traffic control plans, implementation of any traffic control requirements or for any traffic signal services that may be required. Costs for traffic control plans, implementation of traffic control, or traffic signal services required by the Agency(s) of Jurisdiction shall be included in the Contractor's Bid.
- B. All warning signs and safety devices used by the Contractor to perform the Work shall conform to the requirements contained in the State of California, Department of Transportation's current edition of "Manual of Traffic Controls for Construction and Maintenance Work Zones" or to the requirements of the local agency. The Contractor shall also be responsible for all traffic control required by the agency having jurisdiction over the project on the intersecting streets. Contractor must submit a traffic control plan to the agency having jurisdiction over the project for approval prior to starting work.
- C. The Contractor's representative on the site responsible for traffic control shall produce evidence that he/she has completed training acceptable to the California Department of Transportation for safety through construction zones. All of the streets in which the

Work will occur shall remain open to traffic and one lane of traffic maintained at all times unless otherwise directed by the agency of jurisdiction. Businesses and residences adjacent to the Work shall be notified forty-eight (48) hours in advance of closing of driveways. The Contractor shall make every effort to minimize the amount of public parking temporarily eliminated due to construction in areas fronting businesses. No stockpiles of pipe or other material will be allowed in traveled right-of-ways after working hours unless otherwise approved by the Engineer.

ARTICLE 21. DIVERSION OF RECYCLABLE WASTE MATERIALS

In compliance with the applicable Agency's waste reduction and recycling efforts, Contractor shall divert all Recyclable Waste Materials to appropriate recycling centers as required for compliance with the local jurisdiction's waste diversion ordinances. Contractor will be required to submit weight tickets and written proof of diversion with its monthly progress payment requests. Contractor shall complete and execute any certification forms required by Agency or other applicable agencies to document Contractor's compliance with these diversion requirements. All costs incurred for these waste diversion efforts shall be the responsibility of the Contractor.

ARTICLE 22. REMOVAL OF HAZARDOUS MATERIALS

Should Contractor encounter material reasonably believed to be polychlorinated biphenyl (PCB) or other toxic wastes and hazardous materials which have not been rendered harmless at the Project site, the Contractor shall immediately stop work at the affected Project site and shall report the condition to the Agency in writing. The Agency shall contract for any services required to directly remove and/or abate PCBs and other toxic wastes and hazardous materials, if required by the Project site(s), and shall not require the Contractor to subcontract for such services. The Work in the affected area shall not thereafter be resumed except by written agreement of the Agency and Contractor.

ARTICLE 23. SANITARY FACILITIES

Contractor shall provide sanitary temporary toilet buildings and hand washing facilities for the use of all workers. All toilets and hand washing facilities shall comply with all applicable federal, state and local laws, codes, ordinances, and regulations. Toilets shall be kept supplied with toilet paper and shall have workable door fasteners. Toilets and hand washing facilities shall be serviced no less than once weekly and shall be present in a quantity of not less than 1 per 20 workers as required by Cal/OSHA regulations. The toilets and hand washing facilities shall be maintained in a sanitary condition at all times. Use of toilet and hand washing facilities in the Work under construction shall not be permitted. Any other Sanitary Facilities required by Cal/OSHA shall be the responsibility of the Contractor.

ARTICLE 24. AIR POLLUTION CONTROL

Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes, including, but not limited to, those required by the California Air Resources Board. All containers of paint, thinner, curing compound, solvent or liquid asphalt shall be labeled to indicate that the contents fully comply with the applicable material requirements.

ARTICLE 25. LAYOUT AND FIELD ENGINEERING

All field engineering required for laying out the Work and establishing grades for earthwork operations shall be furnished by the Contractor at its expense.

ARTICLE 26. TESTS AND INSPECTIONS

- A. If the Contract Documents, the Engineer, or any instructions, laws, ordinances, or public authority requires any part of the Work to be tested or Approved, Contractor shall provide the Engineer at least two (2) working days' notice of its readiness for observation or inspection. If inspection is by a public authority other than the Agency, Contractor shall promptly inform the Agency of the date fixed for such inspection. Required certificates of inspection (or similar) shall be secured by Contractor. Costs for Agency testing and Agency inspection shall be paid by the Agency. Costs of tests for Work found not to be in compliance shall be paid by the Contractor.
- B. If any Work is done or covered up without the required testing or approval, the Contractor shall uncover or deconstruct the Work, and the Work shall be redone after completion of the testing at the Contractor's cost in compliance with the Contract Documents.
- C. Where inspection and testing are to be conducted by an independent laboratory or agency, materials or samples of materials to be inspected or tested shall be selected by such laboratory or agency, or by the Agency, and not by Contractor. All tests or inspections of materials shall be made in accordance with the commonly recognized standards of national organizations.
- D. In advance of manufacture of materials to be supplied by Contractor which must be tested or inspected, Contractor shall notify the Agency so that the Agency may arrange for testing at the source of supply. Any materials which have not satisfactorily passed such testing and inspection shall not be incorporated into the Work.
- E. If the manufacture of materials to be inspected or tested will occur in a plant or location greater than sixty (60) miles from the Agency, the Contractor shall pay for any excessive or unusual costs associated with such testing or inspection, including but not limited to excessive travel time, standby time and required lodging.
- F. Reexamination of Work may be ordered by the Agency. If so ordered, Work must be uncovered or deconstructed by Contractor. If Work is found to be in accordance with the Contract Documents, the Agency shall pay the costs of reexamination and reconstruction. If such work is found not to be in accordance with the Contract Documents, Contractor shall pay all costs.

ARTICLE 27. PROTECTION OF WORK AND PROPERTY

A. The Contractor shall be responsible for all damages to persons or property that occurs as a result of the Work. Contractor shall be responsible for the proper care and protection of all materials delivered and Work performed until completion and final Acceptance by the Agency. All Work shall be solely at the Contractor's risk. Contractor shall adequately protect adjacent property from settlement or loss of lateral support as necessary. Contractor shall comply with all applicable safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the Project site where Work is being performed. Contractor shall erect and properly maintain at all times, as required by field conditions and progress of work, all necessary safeguards, signs, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created in the course of construction.

B. In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization from the Engineer, is hereby permitted to act to prevent such threatened loss or injury; and Contractor shall so act, without appeal, if so authorized or instructed by the Engineer or the Agency. Any compensation claimed by Contractor on account of emergency work shall be determined by and agreed upon by the Agency and the Contractor.

ARTICLE 28. CONTRACTOR'S MEANS AND METHODS

Contractor is solely responsible for the means and methods utilized to perform the Work. In no case shall the Contractor's means and methods deviate from commonly used industry standards.

ARTICLE 29. AUTHORIZED REPRESENTATIVES

The Agency shall designate representatives, who shall have the right to be present at the Project site at all times. The Agency may designate an inspector who shall have the right to observe all of the Contractor's Work. The inspector shall not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. Contractor shall provide safe and proper facilities for such access.

ARTICLE 30. HOURS OF WORK

- A. As provided in Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, Contractor stipulates that eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any subcontractor on any subcontract under this Contract upon the Work or upon any part of the Work contemplated by this Contract is limited and restricted to eight (8) hours during any one calendar day and 40 hours during any one calendar week, except as hereinafter provided. Notwithstanding the provisions herein above set forth, work performed by employees of Contractor in excess of eight (8) hours per day, and 40 hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.
- B. The Contractor and every subcontractor shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of the Agency and to the Division of Labor Law Enforcement, Department of Industrial Relations of the State of California.
- C. The Contractor shall pay to the Agency a penalty of twenty-five dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted

to work more than eight (8) hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.

- D. Any work necessary to be performed after regular working hours, or on Saturdays and Sundays or other holidays, shall be performed without additional expense to the Agency.
- E. Agency will provide inspection during normal working hours from 7:00 a.m. to 3:30 p.m. Monday through Friday. Inspection before or after this time will be charged to the Contractor as reimbursable inspection time. Inspections on weekends requires two days' notice for review and approval. Upon written request and approval, the 8.5 hour working day may be changed to other limits subject to city/county ordinance.
- F. It shall be unlawful for any person to operate, permit, use, or cause to operate any of the following at the Project site, other than between the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, with no Work allowed on the Agency-observed holidays, unless otherwise approved by the Agency:
 - 1. Powered Vehicles
 - 2. Construction Equipment
 - 3. Loading and Unloading Vehicles
 - 4. Domestic Power Tools

ARTICLE 31. PAYROLL RECORDS

- A. Pursuant to Labor Code section 1776, Contractor and all subcontractors shall maintain weekly certified payroll records, showing the names, addresses, Social Security numbers, work classifications, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by them in connection with the Work under this Contract. Contractor shall certify under penalty of perjury that records maintained and submitted by Contractor are true and accurate. Contractor shall also require subcontractor(s) to certify weekly payroll records under penalty of perjury.
- B. In accordance with Labor Code section 1771.4, the Contractor and each subcontractor shall furnish the certified payroll records directly to the Department of Industrial Relations ("DIR") on the specified interval and format prescribed by the DIR, which may include electronic submission. Contractor shall comply with all requirements and regulations from the DIR relating to labor compliance monitoring and enforcement.
- C. The payroll records described herein shall be certified and submitted by the Contractor at a time designated by the Agency. The Contractor shall also provide the following:
 - A certified copy of the employee's payroll records shall be made available for inspection or furnished to such employee or his or her authorized representative on request.

- 2. A certified copy of all payroll records described herein shall be made available for inspection or furnished upon request of the DIR.
- D. Unless submitted electronically, the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement ("DLSE") of the DIR or shall contain the same information as the forms provided by the DLSE.
- E. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency, the Agency, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor awarded the Contract or performing the contract shall not be marked or obliterated.
- F. In the event of noncompliance with the requirements of this Article, the Contractor shall have ten (10) calendar days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this Article. Should noncompliance still be evident after such 10-day period, the Contractor shall pay a penalty of one hundred dollars (\$100.00) to the Agency for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payment then due.
- G. The responsibility for compliance with this Article shall rest upon the Contractor.

ARTICLE 32. PREVAILING RATES OF WAGES

- A. The Contractor is aware of the requirements of Labor Code sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, Section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. Since this Project involves an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and since the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov. In the alternative, the Contractor may view a copy of the prevailing rate of per diem wages which are on file at the Agency's Administration Office and shall be made available to interested parties upon request. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification, or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the Project site. Contractor shall defend, indemnify and hold the Agency, its officials, officers, employees and authorized volunteers free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or allege failure to comply with the Prevailing Wage Laws.
- B. The Contractor shall forfeit as a penalty to the Agency not more than Two Hundred Dollars (\$200.00), pursuant to Labor Code section 1775, for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate as determined

by the Director of the Department of Industrial Relations for such work or craft in which such worker is employed for any public work done under the Contract by it or by any subcontractor under it. The difference between such prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

C. Contractor shall post, at appropriate conspicuous points on the Project site, a schedule showing all determined general prevailing wage rates and all authorized deductions, if any, from unpaid wages actually earned.

ARTICLE 33. PUBLIC WORKS CONTRACTOR REGISTRATION

Pursuant to Labor Code sections 1725.5 and 1771.1, the Contractor and its subcontractors must be registered with the Department of Industrial Relations prior to the execution of a contract to perform public works. By entering into this Contract, Contractor represents that it is aware of the registration requirement and is currently registered with the DIR. Contractor shall maintain a current registration for the duration of the Project. Contractor shall further include the requirements of Labor Code sections 1725.5 and 1771.1 in any subcontract and ensure that all subcontractors are registered at the time this Contract is entered into and maintain registration for the duration of the Project.

ARTICLE 34. EMPLOYMENT OF APPRENTICES.

- A. Contractor and all subcontractors shall comply with the requirements of Labor Code sections 1777.5 and 1777.6 in the employment of apprentices.
- B. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.
- C. Knowing violations of Labor Code section 1777.5 will result in forfeiture not to exceed one hundred dollars (\$100.00) for each calendar day of non-compliance pursuant to Labor Code section 1777.7.
- D. The responsibility for compliance with this Article shall rest upon the Contractor.

ARTICLE 35. NONDISCRIMINATION/EQUAL EMPLOYMENT OPPORTUNITY

Pursuant to Labor Code section 1735 and other applicable provisions of law, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law on this Project. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, or any other classifications protected by law.

Employment Eligibility; Contractor. By executing this Contract, Contractor verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time. Such requirements and restrictions include, but are not limited to, examination and retention of documentation confirming the identity and immigration status of each employee of the Contractor. Contractor also verifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Contract, and shall not violate any such law at any time during the term of the Contract. Contractor shall avoid any violation of any such law during the term of this Contract by participating in an electronic verification of work authorization program operated by the United States Department of Homeland Security, by participating in an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, or by some other legally acceptable method. Contractor shall maintain records of each such verification, and shall make them available to the Agency or its representatives for inspection and copy at any time during normal business hours. The Agency shall not be responsible for any costs or expenses related to Contractor's compliance with the requirements provided for or referred to herein.

Employment Eligibility; Subcontractors, Sub-subcontractors and Consultants. To the same extent and under the same conditions as Contractor, Contractor shall require all of its subcontractors, sub-subcontractors and consultants performing any part of the Work or of this Contract to make the same verifications and comply with all requirements and restrictions provided for herein.

Employment Eligibility; Failure to Comply. Each person executing this Contract on behalf of Contractor verifies that he or she is a duly authorized officer of Contractor, and understands that any of the following shall be grounds for the Agency to terminate the Contract for cause: (1) failure of Contractor or its subcontractors, sub-subcontractors or consultants to meet any of the requirements provided for herein; (2) any misrepresentation or material omission concerning compliance with such requirements; or (3) failure to immediately remove from the Work any person found not to be in compliance with such requirements.

ARTICLE 36. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

Contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Labor Code section 1777.1 or 1777.7. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid, or may have been paid to a debarred subcontractor by a contractor on the project shall be returned to the Agency. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

ARTICLE 37. LABOR/EMPLOYMENT SAFETY

The Contractor shall comply with all applicable laws and regulations of the federal, state, and local government, including Cal/OSHA requirements and requirements for verification of employees' legal right to work in the United States.

The Contractor shall maintain emergency first aid treatment for his employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 *et seq.*), and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial

Relations, Chapter 4. The Contractor shall ensure the availability of emergency medical services for its employees in accordance with California Code of Regulations, Title 8, Section 1512.

The Contractor shall submit the Illness and Injury Prevention Program and a Project site specific safety program to the Agency prior to beginning Work at the Project site. Contractor shall maintain a confined space program that meets or exceeds the Agency Standards. Contractor shall adhere to the Agency's lock out tag out program.

ARTICLE 38. INSURANCE

The Contractor shall obtain, and at all times during performance of the Work of Contract, maintain all of the insurance described in this Article. Contractor shall not commence Work under this Contract until it has provided evidence satisfactory to the Agency that it has secured all insurance required hereunder. Contractor shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the Agency that the subcontractor has secured all insurance required under this Article. Failure to provide and maintain all required insurance shall be grounds for the Agency to terminate this Contract for cause. Contractor shall furnish Agency with original certificates of insurance and endorsements effective coverage required by this Contract on forms satisfactory to the Agency. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf, and shall be on forms acceptable to the Agency. All certificates and endorsements must be received and approved by the Agency before Work commences.

- A. Additional Insureds; Waiver of Subrogation. The Agency, its officials, officers, employees, agents and authorized volunteers shall be named as Additional Insureds on Contractor's All Risk policy and on Contractor's and its subcontractors' policies of Commercial General Liability and Automobile Liability insurance using, for Contractor's policy/ies of Commercial General Liability insurance, ISO CG forms 20 10 and 20 37 (or endorsements providing the exact same coverage, including completed operations), and, for subcontractors' policies of Commercial General Liability insurance, ISO CG form 20 38 (or endorsements providing the exact same coverage). Notwithstanding the minimum limits set forth in this Contract for any type of insurance coverage, all available insurance proceeds in excess of the specified minimum limits of coverage shall be available to the parties required to be named as Additional Insureds hereunder. Contractor and its insurance carriers shall provide a Waiver of Subrogation in favor of those parties.
- B. Workers' Compensation Insurance. The Contractor shall provide workers' compensation insurance for all of the employees engaged in Work under this Contract, on or at the Site, and, in case of any sublet Work, the Contractor shall require the subcontractor similarly to provide workers' compensation insurance for all the latter's employees as prescribed by State law. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by the Contractor's insurance. In case any class of employees engaged in work under this Contract, on or at the Site, is not protected under the Workers' Compensation Statutes, the Contractor shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected. The Contractor is required to secure payment of compensation to his employees in accordance with the provisions of section 3700 of the Labor Code. The Contractor shall file with the Agency certificates of his insurance protecting workers. Company or companies providing

insurance coverage shall be acceptable to the Agency, if in the form and coverage as set forth in the Contract Documents.

- C. Employer's Liability Insurance. Contractor shall provide Employer's Liability Insurance, including Occupational Disease, in the amount of at least one million dollars (\$1,000,000.00) per person per accident. Contractor shall provide Agency with a certificate of Employer's Liability Insurance. Such insurance shall comply with the provisions of the Contract Documents. The policy shall be endorsed, if applicable, to provide a Borrowed Servant/Alternate Employer Endorsement and contain a Waiver of Subrogation in favor of the Agency.
- D. Commercial General Liability Insurance. Contractor shall provide "occurrence" form Commercial General Liability insurance coverage at least as broad as the most current ISO CGL Form 00 01, including but not limited to, premises liability, contractual liability, products/completed operations, personal and advertising injury which may arise from or out of Contractor's operations, use, and management of the Site, or the performance of its obligations hereunder. The policy shall not contain any exclusion contrary to this Contract including but not limited to endorsements or provisions limiting coverage for (1) contractual liability (including but not limited to ISO CG 24 26 or 21 39); or (2) cross-liability for claims or suits against one insured against another. Policy limits shall not be less than \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Defense costs shall be paid in addition to the limits.
 - 1. Such policy shall comply with all the requirements of this Article. The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Contractor from liability in excess of such coverage, nor shall it limit Contractor's indemnification obligations to the Agency, and shall not preclude the Agency from taking such other actions available to the Agency under other provisions of the Contract Documents or law.
 - 2. All general liability policies provided pursuant to the provisions of this Article shall comply with the provisions of the Contract Documents.
 - 3. All general liability policies shall be written to apply to all bodily injury, including death, property damage, personal injury, owned and non-owned equipment, blanket contractual liability, completed operations liability, explosion, collapse, under-ground excavation, removal of lateral support, and other covered loss, however occasioned, occurring during the policy term, and shall specifically insure the performance by Contractor of that part of the indemnification contained in these General Conditions relating to liability for injury to or death of persons and damage to property.
 - 4. If the coverage contains one or more aggregate limits, a minimum of 50% of any such aggregate limit must remain available at all times; if over 50% of any aggregate limit has been paid or reserved, the Agency may require additional coverage to be purchased by Contractor to restore the required limits. Contractor may combine primary, umbrella, and as broad as possible excess liability coverage

- to achieve the total limits indicated above. Any umbrella or excess liability policy shall include the additional insured endorsement described in the Contract Documents.
- 5. All policies of general liability insurance shall permit and Contractor does hereby waive any right of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss.
- E. **Automobile Liability Insurance**. Contractor shall provide "occurrence" form Automobile Liability Insurance at least as broad as ISO CA 00 01 (Any Auto) in the amount of, at least, one million dollars (\$1,000,000) per accident for bodily injury and property damage. Such insurance shall provide coverage with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by Contractor or for which Contractor is responsible, in a form and with insurance companies acceptable to the Agency. All policies of automobile insurance shall permit and Contractor does hereby waive any right of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss.

F. Builder's Risk ["All Risk"]

- 1. It is the Contractor's responsibility to maintain or cause to be maintained Builder's Risk ["All Risk"] extended coverage insurance on all work, material, equipment, appliances, tools, and structures that are or will become part of the Work and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The Agency accepts no responsibility for the Work until the Work is formally accepted by the Agency. The Contractor shall provide a certificate evidencing this coverage before commencing performance of the Work.
- 2. The named insureds shall be Contractor, all Subcontractors of any tier (excluding those solely responsible for design work), suppliers, and Agency, its elected officials, officers, employees, agents and authorized volunteers, as their interests may appear. Contractor shall not be required to maintain property insurance for any portion of the Work following acceptance by Agency.
- 3. Policy shall be provided for replacement value on an "all risk" basis. There shall be no coinsurance penalty provision in any such policy. Policy must include: (1) coverage for any ensuing loss from faulty workmanship, nonconforming work, omission or deficiency in design or specifications; (2) coverage against machinery accidents and operational testing; (3) coverage for removal of debris, and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all other properties constituting a part of the Project; (4) transit coverage, including ocean marine coverage (unless insured by the supplier), with sub-limits sufficient to insure the full replacement value of any key equipment item; and (5) coverage with sub-limits sufficient to insure the full replacement value of any property or equipment stored either on or off the Site. Such insurance shall be on a form acceptable to Agency to ensure adequacy and sublimit.
- 4. In addition, the policy shall meet the following requirements:

- a. Insurance policies shall be so conditioned as to cover the performance of any extra work performed under the Contract.
- b. Coverage shall include all materials stored on site and in transit.
- c. Coverage shall include Contractor's tools and equipment.
- d. Insurance shall include boiler, machinery and material hoist coverage.
- G. **Contractor's Pollution Liability Coverage**. Contractor shall provide pollution liability insurance in an amount not less than \$1,000,000 per occurrence and \$2,000,000 aggregate, if applicable.
- H. Contractor shall require all tiers of sub-contractors working under this Contract to provide the insurance required under this Article unless otherwise agreed to in writing by Agency. Contractor shall make certain that any and all subcontractors hired by Contractor are insured in accordance with this Contract. If any subcontractor's coverage does not comply with the foregoing provisions, Contractor shall indemnify and hold the Agency harmless from any damage, loss, cost, or expense, including attorneys' fees, incurred by the Agency as a result thereof.

ARTICLE 39. FORM AND PROOF OF CARRIAGE OF INSURANCE

- A. Any insurance carrier providing insurance coverage required by the Contract Documents shall be admitted to and authorized to do business in the State of California unless waived, in writing, by the Agency's Risk Manager. Carrier(s) shall have an A.M. Best rating of not less than an A:VII. Insurance deductibles or self-insured retentions must be declared by the Contractor. At the election of the Agency the Contractor shall either 1) reduce or eliminate such deductibles or self-insured retentions, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses. If umbrella or excess liability coverage is used to meet any required limit(s) specified herein, the Contractor shall provide a "follow form" endorsement satisfactory to the Agency indicating that such coverage is subject to the same terms and conditions as the underlying liability policy.
- B. Each insurance policy required by this Contract shall be endorsed to state that: (1) coverage shall not be suspended, voided, reduced or cancelled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Agency; and (2) any failure to comply with reporting or other provisions of the policies, including breaches of warranties, shall not affect coverage provided to the Agency, its officials, officers, agents, employees, and volunteers.
- C. The Certificates(s) and policies of insurance shall contain or shall be endorsed to contain the covenant of the insurance carrier(s) that it shall provide no less than thirty (30) days written notice be given to the Agency prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, the Agency may terminate the Contract or stop the Work in accordance with the Contract Documents, unless the Agency receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverage's set forth herein and the insurance required

herein is in full force and effect. Contractor shall not take possession, or use the Site, or commence operations under this Contract until the Agency has been furnished original Certificate(s) of Insurance and certified original copies of endorsements or policies of insurance including all endorsements and any and all other attachments as required in this Article. The original endorsements for each policy and the Certificate of Insurance shall be signed by an individual authorized by the insurance carrier to do so on its behalf.

- D. The Certificate(s) of Insurance, policies and endorsements shall so covenant and shall be construed as primary, and the Agency's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.
- E. Agency reserves the right to adjust the monetary limits of insurance coverages during the term of this Contract including any extension thereof if, in the Agency's reasonable judgment, the amount or type of insurance carried by the Contractor becomes inadequate.
- F. Contractor shall report to the Agency, in addition to the Contractor's insurer, any and all insurance claims submitted by the Contractor in connection with the Work under this Contract.

ARTICLE 40. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- A. Time for Completion/Liquidated Damages. Time is of the essence in the completion of the Work. Work shall be commenced within ten (10) Days of the date stated in the Agency's Notice to Proceed and shall be completed by Contractor in the time specified in the Contract Documents. The Agency is under no obligation to consider early completion of the Project; and the Contract completion date shall not be amended by the Agency's receipt or acceptance of the Contractor's proposed earlier completion date. Furthermore, Contractor shall not, under any circumstances, receive additional compensation from the Agency (including but not limited to indirect, general, administrative or other forms of overhead costs) for the period between the time of earlier completion proposed by the Contractor and the Contract completion date. If the Work is not completed as stated in the Contract Documents, it is understood that the Agency will suffer damage. In accordance with Government Code section 53069.85, being impractical and infeasible to determine the amount of actual damage, it is agreed that Contractor shall pay to the Agency as fixed and liquidated damages, and not as a penalty, the sum stipulated in the Contract for each calendar day of delay until the Work is fully completed. Contractor and its surety shall be liable for any liquidated damages. Any money due or to become due the Contractor may be retained to cover liquidated damages.
- B. **Inclement Weather.** Contractor shall abide by the Engineer's determination of what constitutes inclement weather. Time extensions for inclement weather shall only be granted when the Work stopped during inclement weather is on the critical path of the Project schedule.
- C. **Extension of Time.** Contractor shall not be charged liquidated damages because of any delays in completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of Contractor (or its subcontractors or suppliers). Contractor shall within five (5) Days of identifying any such delay notify the Agency in

writing of causes of delay. The Agency shall ascertain the facts and extent of delay and grant extension of time for completing the Work when, in its judgment, the facts justify such an extension. Time extensions to the Project shall be requested by the Contractor as they occur and without delay. No delay claims shall be permitted unless the event or occurrence delays the completion of the Project beyond the Contract completion date.

D. No Damages for Reasonable Delay. The Agency's liability to Contractor for delays for which the Agency is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall the Agency be liable for any costs which are borne by the Contractor in the regular course of business, including, but not limited to, home office overhead and other ongoing costs. Damages caused by unreasonable Agency delay, including delays caused by items that are the responsibility of the Agency pursuant to Government Code section 4215, shall be based on actual costs only, no proportions or formulas shall be used to calculate any delay damages.

ARTICLE 41. COST BREAKDOWN AND PERIODIC ESTIMATES

Contractor shall furnish on forms Approved by the Agency:

- A. Within ten (10) Days of Notice to Proceed with the Contract, a detailed estimate giving a complete breakdown of the Contract price, if the Contract amount is a lump sum.
- B. A monthly itemized estimate of Work done for the purpose of making progress payments. In order for the Agency to consider and evaluate each progress payment application, the Contractor shall submit a detailed measurement of Work performed and a progress estimate of the value thereof before the tenth (10th) Day of the following month.
- C. Contractor shall submit, with each of its payment requests, an adjusted list of actual quantities, verified by the Engineer, for unit price items listed, if any, in the Bid Form.
- D. Following the Agency's Acceptance of the Work, the Contractor shall submit to the Agency a written statement of the final quantities of unit price items for inclusion in the final payment request.
- E. The Agency shall have the right to adjust any estimate of quantity and to subsequently correct any error made in any estimate for payment.

Contractor shall certify under penalty of perjury, that all cost breakdowns and periodic estimates accurately reflect the Work on the Project.

ARTICLE 42. PROGRESS ESTIMATES AND PAYMENT

A. By the tenth (10th) Day of the following calendar month, Contractor shall submit to Engineer a payment request which shall set forth in detail the value of the Work done for the period beginning with the date work was first commenced and ending on the end of the calendar month for which the payment request is prepared. Contractor shall include any amount earned for authorized extra work. From the total thus computed, a deduction shall be made in the amount of five percent (5%) for retention, except

where the Agency has adopted a finding that the Work done under the Contract is substantially complex, and then the amount withheld as retention shall be the percentage specified in the Notice Inviting Bids. From the remainder a further deduction may be made in accordance with Section B below. The amount computed, less the amount withheld for retention and any amounts withheld as set forth below, shall be the amount of the Contractor's payment request.

- B. The Agency may withhold a sufficient amount or amounts of any payment or payments otherwise due to Contractor, as in his judgment may be necessary to cover:
 - 1. Payments which may be past due and payable for just claims against Contractor or any subcontractors for labor or materials furnished in and about the performance of work on the Project under this Contract.
 - 2. Defective work not remedied.
 - 3. Failure of Contractor to make proper payments to his subcontractor or for material or labor.
 - 4. Completion of the Contract if there is a reasonable doubt that the Work can be completed for balance then unpaid.
 - 5. Damage to another contractor or a third party.
 - 6. Amounts which may be due the Agency for claims against Contractor.
 - 7. Failure of Contractor to keep the record ("as-built") drawings up to date.
 - 8. Failure to provide update on construction schedule as required herein.
 - 9. Site cleanup.
 - 10. Failure to comply with Contract Documents.
 - 11. Liquidated damages.
 - 12. Legally permitted penalties.
- C. The Agency may apply such withheld amount or amounts to payment of such claims or obligations at its discretion with the exception of subsections (B)(1), (3), and (5) of this Article, which must be retained or applied in accordance with applicable law. In so doing, the Agency shall be deemed the agent of Contractor and any payment so made by the Agency shall be considered as a payment made under contract by the Agency to Contractor and the Agency shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. The Agency will render Contractor a proper accounting of such funds disbursed on behalf of Contractor.
- D. Upon receipt, the Engineer shall review the payment request to determine whether it is undisputed and suitable for payment. If the payment request is determined to be unsuitable for payment, it shall be returned to Contractor as soon as practicable but

not later than seven (7) Days after receipt, accompanied by a document setting forth in writing the reasons why the payment request is not proper. The Agency shall make the progress payment within 30 calendar days after the receipt of an undisputed and properly submitted payment request from Contractor, provided that a release of liens and claims has been received from the Contractor pursuant to Civil Code section 8132. The number of days available to the Agency to make a payment without incurring interest pursuant to this paragraph shall be reduced by the number of days by which the Engineer exceeds the seven (7) Day requirement.

E. A payment request shall be considered properly executed if funds are available for payment of the payment request and payment is not delayed due to an audit inquiry by the financial officer of the Agency.

ARTICLE 43. SECURITIES FOR MONEY WITHHELD

Pursuant to section 22300 of the Public Contract Code of the State of California, Contractor may request the Agency to make retention payments directly to an escrow agent or may substitute securities for any money withheld by the Agency to ensure performance under the contract. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the Agency or with a state or federally chartered bank as the escrow agent who shall return such securities to Contractor upon satisfactory completion of the contract. Deposit of securities with an escrow agent shall be subject to a written agreement substantially in the form provided in section 22300 of the Public Contract Code.

ARTICLE 44. CHANGES AND EXTRA WORK.

A. Contract Change Orders.

- 1. The Agency, without invalidating the Contract, may order changes in the Work consisting of additions, deletions or other revisions, and the Contract Price and Contract Time shall be adjusted accordingly. Except as otherwise provided herein, all such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including any adjustment in the Contract Price or the Contract Time, and the full and final settlement of all costs (direct, indirect and overhead) related to the Work authorized by the Change Order.
- 2. Contractor shall promptly execute changes in the Work as directed in writing by the Agency even when the parties have not reached agreement on whether the change increases the scope of Work or affects the Contract Price or Contract Time. All claims for additional compensation to the Contractor shall be presented in writing. No claim will be considered after the Work in question has been done unless a written Change Order has been issued or a timely written notice of claim has been made by Contractor.
- 3. Whenever any change is made as provided for herein, such change shall be considered and treated as though originally included in the Contract, and shall be subject to all terms, conditions, and provisions of the original Contract.

- 4. Contractor shall not be entitled to claim or bring suit for damages, whether for loss of profits or otherwise, on account of any decrease or omission of any item or portion of Work to be done.
- 5. No dispute, disagreement, or failure of the parties to reach agreement on the terms of the Change Order shall relieve the Contractor from the obligation to proceed with performance of the work, including Additional Work, promptly and expeditiously.
- 6. Contractor shall make available to the Agency any of the Contractor's documents related to the Project immediately upon request of the Agency, as set forth in Article 52.
- 7. Any alterations, extensions of time, Additional Work, or any other changes may be made without securing consent of the Contractor's surety or sureties.

B. Contract Price Change.

- 1. Process for Determining Adjustments in Contract Price.
 - a. Owner Initiated Change. The Contractor must submit a complete cost proposal, including any change in the Contract Price or Contract Time, within seven (7) Days after receipt of a scope of a proposed change order initiated by the Agency, unless the Agency requests that proposals be submitted in less than seven (7) Days.
 - b. <u>Contractor Initiated Change</u>. The Contractor must give written notice of a proposed change order required for compliance with the Contract Documents within seven (7) Days of discovery of the facts giving rise to the proposed change order.
 - c. Whenever possible, any changes to the Contract amount shall be in a lump sum mutually agreed to by the Contractor and the Agency.
 - d. Price quotations from the Contractor shall be accompanied by sufficiently detailed supporting documentation to permit verification by the Agency, including but not limited to estimates and quotations from subcontractors or material suppliers, as the Agency may reasonably request. Contractor shall certify the accuracy of all Change Order Requests under penalty of perjury.
 - e. If the Contractor fails to submit a complete cost proposal within the seven (7) Day period (or as requested), the Agency has the right to order the Contractor in writing to commence the Work immediately on a time and materials basis and/or issue a lump sum change to the Contract Price and/or Contract Time in accordance with the Agency's estimate. If the change is issued based on the Agency's estimate, the Contractor will waive its right to dispute the action unless within fifteen (15) Days following completion of the added/deleted work, the Contractor presents written proof that the Agency's estimate was in error.

2. <u>Unit Price Change Orders</u>.

- a. When the actual quantity of a Unit Price item varies from the Bid Form, compensation for the change in quantity will be calculated by multiplying the actual quantity by the Unit Price. This calculation may result in either an additive or deductive Final Change Order pursuant to the Contract Documents.
- b. No Mark up for Overhead and Profit. Because the Contract Unit Prices provided in the Bid Form include Overhead and Profit as determined by Contractor at the time of Bid submission, no mark up or deduction for Overhead and Profit will be included in Unit Price Change Orders.
- c. Bid items included on the Bid Form may be deducted from the Work in their entirety without any negotiated extra costs.
- d. Contractor acknowledges that unit quantities are estimates and agrees that the estimated unit quantities listed on the Bid Form will be adjusted to reflect the actual unit quantities which may result in an adjustment to the Contract Unit Prices. Such an adjustment will be made by execution of a final additive or deductive Change Order following Contractor's completion of the Work. Upon notification, Contractor's failure to respond within seven (7) Days will result in Agency's issuance of a unit quantity adjustment to the Contract Unit Prices and/or Contract Time in accordance with the Contract Documents.
- e. The Agency or Contractor may make a Claim for an adjustment in the Unit Price in accordance with the Contract Documents if:
 - i. the quantity of any item of Unit Price Work performed by Contractor differs by twenty-five percent (25%) or more from the estimated quantity of such item indicated in the Contract; and
 - ii. there is no corresponding adjustment with respect to any other item of Work; and
 - iii. Contractor believes that Contractor is entitled to an increase in Unit Price as a result of having incurred additional expense or the Agency believes that the Agency is entitled to a decrease in Unit Price and the parties are unable to agree as to the amount of any such increase or decrease.
- 3. <u>Lump Sum Change Orders</u>. Compensation for Lump Sum Change Orders shall be limited to expenditures necessitated specifically by the Additional Work, and shall be segregated as follows:
 - a. <u>Labor</u>. The costs of labor will be the actual cost for wages prevailing locally for each craft or type of worker at the time the Additional Work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessment or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the Additional Work cost will not be permitted unless the Contractor establishes the necessity for such new classifications. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

- b. <u>Materials</u>. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available in the quantities involved, plus sales tax, freight, and delivery. Materials costs shall be based upon supplier or manufacturer's invoice. If invoices or other satisfactory evidence of cost are not furnished within fifteen (15) Days of delivery, then the Agency shall determine the materials cost, at its sole discretion.
- c. <u>Tool and Equipment Use</u>. Costs for the use of small tools, which are tools that have a replacement value of \$1,000 or less, shall be considered included in the Overhead and Profit mark-ups established below. Regardless of ownership, the rates to be used in determining equipment use costs shall not exceed listed rates prevailing locally at equipment rental agencies, or distributors, at the time the Work is performed.

4. Time and Materials Change Orders.

- a. <u>General</u>. The term Time and Materials means the sum of all costs reasonably and necessarily incurred and paid by Contractor for labor, materials, and equipment in the proper performance of Additional Work. Except as otherwise may be agreed to in writing by the Agency, such costs shall be in amounts no higher than those prevailing in the locality of the Project, and shall include only the following items.
- b. <u>Timely and Final Documentation</u>.
 - i. T&M Daily Sheets. Contractor must submit timesheets, materials invoices, records of equipment hours, and records of rental equipment hours to the Agency's Representative for an approval signature each day Additional Work is performed. Failure to get the Agency's Representative's approval signature each Day shall result in a waiver of Contractor's right to claim these costs. The Agency's Representative's signature on time sheets only serves as verification that the Work was performed and is not indicative of Agency's agreement to Contractor's entitlement to the cost.
 - ii. T&M Daily Summary Sheets. All documentation of incurred costs ("T&M" Daily Summary Sheets") shall be submitted by Contractor within three (3) Days of incurring the cost for labor, material, equipment, and special services as Additional Work is performed. Contractor's actual costs shall be presented in a summary table in an electronic spreadsheet file by labor, material, equipment, and special services. Each T&M Daily Summary Sheet shall include Contractor's actual costs incurred for the Additional Work performed that day and a cumulative total of Contractor's actual costs incurred for the Additional Work. Contractor's failure to provide a T&M Daily Summary Sheet showing a total cost summary within three (3) Days but within five (5) Days of performance of the Work will result in the Contractor's otherwise allowable overhead and profit being reduced by 50% for that portion of Additional Work which was not documented in a timely manner. Contractor's failure to submit the T&M Daily Summary Sheet within five (5) Days of performance of the Work will result in a total waiver of Contractor's right to claim these costs.

- iii. T&M Total Cost Summary Sheet. Contractor shall submit a T&M Total Cost Summary Sheet, which shall include total actual costs, within seven (7) Days following completion of Agency approved Additional Work. Contractor's total actual cost shall be presented in a summary table in an electronic spreadsheet file by labor, material, equipment, and special services. Contractor's failure to submit the T&M Total Cost Summary Sheet within seven (7) Days of completion of the Additional Work will result in Contractor's waiver for any reimbursement of any costs associated with the T&M Summary Sheets or the performance of the Additional Work.
- c. <u>Labor</u>. The Contractor will be paid the cost of labor for the workers used in the actual and direct performance of the Work. The cost of labor will be the sum of the actual wages paid (which shall include any employer payments to or on behalf of the workers for health and welfare, pension, vacation, and similar purposes) substantiated by timesheets and certified payroll for wages prevailing for each craft or type of workers performing the Additional Work at the time the Additional Work is done, and the labor surcharge set forth in the Department of Transportation publication entitled *Labor Surcharge and Equipment Rental Rates*, which is in effect on the date upon which the Work is accomplished and which is a part of the Contract. The labor surcharge shall constitute full compensation for all payments imposed by Federal, State, or local laws and for all other payments made to, or on behalf of, the workers, other than actual wages.
 - i. Equipment Operator Exception. Labor costs for equipment operators and helpers shall be paid only when such costs are not included in the invoice for equipment rental.
 - ii. <u>Foreman Exception</u>. The labor costs for foremen shall be proportioned to all of their assigned work and only that applicable to the Additional Work shall be paid. Indirect labor costs, including, without limitation, the superintendent, project manager, and other labor identified in the Contract Documents will be considered Overhead.
- d. <u>Materials</u>. The cost of materials reported shall be itemized at invoice or lowest current price at which materials are locally available and delivered to the Project site in the quantities involved, plus the cost of sales tax, freight, delivery, and storage.
 - Trade discounts available to the purchaser shall be credited to the Agency notwithstanding the fact that such discounts may not have been taken by Contractor.
 - ii. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the Agency's Representative.
 - iii. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on Additional Work items or the current

- wholesale price for such materials delivered to the Project site, whichever price is lower.
- iv. If, in the opinion of the Agency's Representative, the cost of materials is excessive, or Contractor does not furnish satisfactory evidence of the cost of such materials, then the cost shall be deemed to be the lowest current wholesale price for the total quantity concerned delivered to the Project site less trade discounts.
- v. The Agency reserves the right to furnish materials for the Additional Work and no Claim shall be allowed by Contractor for costs of such materials or Indirect Costs or profit on Agency furnished materials.

e. Equipment.

- i. Rental Time. The rental time to be paid for equipment on the Project site shall be the time the equipment is in productive operation on the Additional Work being performed and, in addition, shall include the time required to move the equipment to the location of the Additional Work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except that moving time will not be paid if the equipment is used on other than the Additional Work, even though located at the site of the Additional Work.
 - (a) Rental Time Not Allowed. Rental time will not be allowed while equipment is inoperative due to breakdowns.
 - (b) Computation Method. The following shall be used in computing the rental time of equipment on the Project site.
 - (i) When hourly rates are paid, any part of an hour less than 30 minutes of operation shall be considered to be 1/2-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation.
 - (ii) When daily rates are paid, any part of a day less than 4 hours operation shall be considered to be 1/2-day of operation, and any part of an hour in excess of 4 hours will be considered one day of operation.
- ii. Rental Rates. Contractor will be paid for the use of equipment at the lesser of (i) the actual rental rate, or (ii) the rental rate listed for that equipment in the California Department of Transportation publication entitled Labor Surcharge and Equipment Rental Rates, which is in effect on the date upon which the Contract was executed. Such rental rates will be used to compute payments for equipment whether the equipment is under Contractor's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment shall be the rate (i.e., daily, monthly) resulting in the least total cost to the Agency for the total period of use. If it is deemed necessary by Contractor to use equipment not listed in the publication, an equitable rental

rate for the equipment will be established by the Agency's Representative. Contractor may furnish cost data which might assist the Agency's Representative in the establishment of the rental rate.

iii. Contractor-Owned Equipment.

- (a) For Contractor-owned equipment, the allowed equipment rental rate will be limited to the monthly equipment rental rate using a utilization rate of 173 hours per month.
- (b) For Contractor-owned equipment, the rental time to be paid for equipment on the Site shall be the time the equipment is in productive operation, unless, in the instance of standby time, the equipment could be actively used by Contractor on another project, then Agency shall pay for the entirety of the time the equipment is on Site. It shall be Contractor's burden to demonstrate to the Agency that the equipment could be actively used on another project.
- iv. All equipment shall, in the opinion of the Agency's Representative, be in good working condition and suitable for the purpose for which the equipment is to be used.
- v. Before construction equipment is used on the Additional Work, Contractor shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the Agency's Representative, in duplicate, a description of the equipment and its identifying number and the scheduled Additional Work activities planned.
- vi. Unless otherwise specified, manufacturer's rating and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.
- f. <u>Special Services</u>. Special work or services are defined as that Additional Work characterized by extraordinary complexity, sophistication, or innovation or a combination of the foregoing attributes which are unique to the construction industry.
 - i. <u>Invoices for Special Services</u>. When the Agency's Representative and Contractor determine that a special service is required which cannot be performed by the forces of Contractor or those of any of its Subcontractors, the special service may be performed by an entity especially skilled in the Additional Work. Invoices for special services based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs, after validation of market values by the Agency's Representative.
 - ii. <u>Discount and Allowance</u>. All invoices for special services will be adjusted by deducting all trade discounts offered or available, whether the discounts were taken or not. In lieu of Overhead and Profit specified herein, a total

- allowance not to exceed fifteen percent (15%) for Overhead and Profit will be added to invoices for Special Services.
- iii. When the Agency determines, in its sole discretion, that competitive bidding is necessary for certain special services, Contractor shall solicit competitive bids for those special services.
- g. <u>Excluded Costs</u>. The term Time and Material shall not include any of the following costs or any other home or field office overhead costs, all of which are to be considered administrative costs covered by Contractor's allowance for Overhead and Profit.
 - Overhead Cost. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, timekeepers, clerks, and other personnel employed by Contractor whether at the Site or in Contractor's principal office or any branch office, material yard, or shop for general administration of the Additional Work;
 - ii. Office Expenses. Expenses of Contractor's principal and branch offices;
 - iii. <u>Capital Expenses</u>. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Additional Work and charges against Contractor for delinquent payments;
 - iv. Negligence. Costs due to the negligence of Contractor or any Subcontractor or Supplier, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including without limitation the correction of Defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property;
 - v. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in the Contract Documents;
 - vi. <u>Small Tools</u>. Cost of small tools valued at less than \$1,000 and that remain the property of Contractor;
- vii. <u>Administrative Costs</u>. Costs associated with the preparation of Change Orders (whether or not ultimately authorized), cost estimates, or the preparation or filing of Claims;
- viii. <u>Anticipated Lost Profits</u>. Expenses of Contractor associated with anticipated lost profits or lost revenues, lost income or earnings, lost interest on earnings, or unpaid retention;
- ix. <u>Home Office Overhead</u>. Costs derived from the computation of a "home office overhead" rate by application of the *Eichleay, Allegheny*, burden fluctuation, or other similar methods;

- x. <u>Special Consultants and Attorneys</u>. Costs of special consultants or attorneys, whether or not in the direct employ of Contractor, employed for services specifically related to the resolution of a Claim, dispute, or other matter arising out of or relating to the performance of the Additional Work.
- h. Overhead, Profit and Other Charges. The mark-up for overhead (including supervision) and profit on work added to the Contract shall be according to the following:
 - i. "Net Cost" is defined as consisting of costs of labor, materials, and tools and equipment only excluding overhead and profit. The costs of applicable insurance and bond premium will be reimbursed to the Contractor and subcontractors at cost only, without mark-up. Contractor shall provide Agency with documentation of the costs, including, but not limited to, payroll records, invoices, and such other information as Agency may reasonably request.
 - ii. For Work performed by the Contractor's forces, the added cost for overhead and profit shall not exceed fifteen percent (15%) of the Net Cost of the Work.
 - iii. For Work performed by a subcontractor, the added cost for overhead and profit shall not exceed fifteen percent (15%) of the subcontractor's Net Cost of the Work to which the Contractor may add five percent (5%) of the subcontractor's Net Cost.
 - iv. For Work performed by a sub-subcontractor, the added cost for overhead and profit shall not exceed fifteen percent (15%) of the sub-subcontractor's Net Cost for Work to which the subcontractor and general contractor may each add an additional five percent (5%) of the Net Cost of the lower tier subcontractor.
 - v. No additional mark-up will be allowed for lower tier subcontractors, and in no case shall the added cost for overhead and profit payable by Agency exceed twenty-five percent (25%) of the Net Cost as defined herein, of the party that performs the Work.
- 5. All of the following costs are included in the markups for overhead and profit described above, and Contractor shall not receive any additional compensation for: Submittals, drawings, field drawings, Shop Drawings, including submissions of drawings; field inspection; General Superintendence; General administration and preparation of cost proposals, schedule analysis, Change Orders, and other supporting documentation; computer services; reproduction services; Salaries of project engineer, superintendent, timekeeper, storekeeper, and secretaries; Janitorial services; Small tools, incidentals and consumables; Temporary On-Site facilities (Offices, Telephones, High Speed Internet Access, Plumbing, Electrical Power, Lighting; Platforms, Fencing, Water), Jobsite and Home office overhead or other expenses; vehicles and fuel used for work otherwise included in the Contract Documents; Surveying; Estimating; Protection of Work; Handling and disposal fees; Final Cleanup; Other Incidental Work; Related Warranties; insurance and bond premiums.

- 6. For added or deducted Work by subcontractors, the Contractor shall furnish to the Agency the subcontractor's signed detailed record of the cost of labor, material and equipment, including the subcontractor markup for overhead and profit. The same requirement shall apply to sub-subcontractors
- 7. For added or deducted work furnished by a vendor or supplier, the Contractor shall furnish to the Agency a detailed record of the cost to the Contractor, signed by such vendor or supplier.
- 8. Any change in the Work involving both additions and deletions shall indicate a net total cost, including subcontracts and materials. Allowance for overhead and profit, as specified herein, shall be applied if the net total cost is an increase in the Contract Price; overhead and profit allowances shall not be applied if the net total cost is a deduction to the Contract Price. The estimated cost of deductions shall be based on labor and material prices on the date the Contract was executed.
- 9. Contractor shall not reserve a right to assert impact costs, extended job site costs, extended overhead, constructive acceleration and/or actual acceleration beyond what is stated in the Change Order for Work. No claims shall be allowed for impact, extended overhead costs, constructive acceleration and/or actual acceleration due to a multiplicity of changes and/or clarifications. The Contractor may not change or modify the Agency's change order form in an attempt to reserve additional rights.
- 10. If the Agency disagrees with the proposal submitted by Contractor, it will notify the Contractor and the Agency will provide its opinion of the appropriate price and/or time extension. If the Contractor agrees with the Agency, a Change Order will be issued by the Agency. If no agreement can be reached, the Agency shall have the right to issue a unilateral Change Order setting forth its determination of the reasonable additions or savings in costs and time attributable to the extra or deleted work. Such determination shall become final and binding if the Contractor fails to submit a claim in writing to the Agency within fifteen (15) Days of the issuance of the unilateral Change Order, disputing the terms of the unilateral Change Order, and providing such supporting documentation for its position as the Agency may require.

C. Change of Contract Times.

- 1. The Contract Times may only be changed by a Change Order.
- 2. All changes in the Contract Price and/or adjustments to the Contract Times related to each change shall be included in Contractor's COR pursuant to this Article. No cost or time will be allowed for cumulative effects of multiple changes. All Change Orders must state that the Contract Time is not changed or is either increased or decreased by a specific number of days. Failure to include a change to time shall waive any change to the time unless the parties mutually agree in writing to postpone a determination of the change to time resulting from the Change Order.
- Notice of the amount of the request for adjustment in the Contract Times with supporting data shall be delivered within seven (7) Days after such start of occurrence, unless Agency's Representative allows an additional period of time to

ascertain more accurate data in support of the request. No extension of time or additional compensation shall be given for a delay if the Contractor failed to give notice in the manner and within the time prescribed.

4. Agency may elect, at Agency's sole discretion, to grant an extension in Contract Times, without Contractor's request, because of delays or other factors.

5. Use of Float and Critical Path.

- a. Float is for the benefit of the Project. Float shall not be considered for the exclusive use or benefit of either the Agency or the Contractor.
- b. Contractor shall not be entitled to compensation, and Agency will not compensate Contractor, for delays which impact early completion. Any difference in time between the Contractor's early completion and the Contract Time shall be considered a part of the Project float.
- 6. Contractor's entitlement to an extension of the Contract Times is limited to an Agency-caused extension of the critical path, reduced by the Contractor's concurrent delays, and established by a proper time impact analysis. No time extension shall be allowed unless, and then only to the extent that, the Agency-caused delay extends the critical path beyond the previously approved Contract Time. If approved, the increase in time required to complete the Work shall be added to the Contract Time.
 - a. Contractor shall not be entitled to an adjustment in the Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.
 - b. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions (as determined by the Agency), Acts of God, acts or failures to act of utility owners not under the control of Agency, or other causes not the fault of and beyond control of Agency and Contractor, then Contractor shall be entitled to an time extension when the Work stopped is on the critical path. Such a non-compensable adjustment shall be Contractor's sole and exclusive remedy for such delays. Contractor must submit a timely request in accordance with the requirements of this Article.

c. <u>Utility-Related Delays.</u>

- i. Contractor shall immediately notify in writing the utility owner and Agency's Representative of its construction schedule and any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities. Requests for extensions of time arising out of utility relocation or repair delays shall be filed in accordance with this Article.
- ii. Contractor shall not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, as

noted in the Contract Documents or by the Underground Service Alert survey.

- 7. Content for Requests for Contract Extension. Contractor's justification for entitlement shall be clear and complete citing specific Contract Document references and reasons on which Contractor's entitlement is based. At a minimum, each request for a time extension must include:
 - a. Each request for an extension of Contract Time must identify the impacting event, in narrative form, providing a description of the delay event and sufficient justification as to why the Contractor is entitled to a time extension. Contractor must demonstrate that the delay arises from unforeseeable causes beyond the control and without the fault or negligence of both Contractor and any Subcontractors or Suppliers, or any other persons or organizations employed by any of them or for whose acts any of them may be liable, and that such causes in fact lead to performance or completion of the Work, or specified part in question, beyond the corresponding Contract Times, despite Contractor's reasonable and diligent actions to guard against those effects.
 - b. Each request for an extension of Contract Time must include a time impact analysis in CPM format, using the Contemporaneous Impacted As-Planned Schedule Analysis to calculate the impact of the delay event.

8. No Damages for Reasonable Delay.

- a. Agency's liability to Contractor for delays for which Agency is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall Agency be liable for any costs which are borne by the Contractor in the regular course of business, including, but not limited to, home office overhead and other ongoing costs.
- b. Damages caused by unreasonable Agency delay that impact the critical path, including delays caused by items that are the responsibility of the Agency pursuant to Government Code section 4215, shall be compensated at the Daily Rate established in the Special Conditions. No other calculations, proportions or formulas shall be used to calculate any delay damages.
- c. Agency and Agency's Representative, and the officers, members, partners, employees, agents, consultants, or subcontractors of each of them, shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- 9. Contractor's failure, neglect, or refusal to comply with the requirements of the Contract Documents, or any portion thereof, shall bar Contractor's request for extensions of the Contract Times. Such failure, neglect, or refusal prejudices Agency's and Agency's Representative's ability to recognize and mitigate delay, and such failure, neglect, or refusal prevent the timely analysis of requests for extensions of Contract Times, and whether such extensions may be warranted.

Contractor hereby waives all rights to extensions of Contract Times due to delays or accelerations that result from or occur during periods of time for which Contractor fails, neglects, or refuses to fully comply with the requirements of this Article.

ARTICLE 45. FINAL ACCEPTANCE AND PAYMENT

- A. The acceptance of the Work on behalf of the Agency will be made by the Engineer. Such acceptance by the Agency shall not constitute a waiver of defects. When the Work has been accepted there shall be paid to Contractor a sum equal to the contract price less any amounts previously paid Contractor and less any amounts withheld by the Agency from Contractor under the terms of the contract. The final five percent (5%), or the percentage specified in the notice inviting bids where the Agency has adopted a finding of substantially complete, shall not become due and payable until five (5) calendar days shall have elapsed after the expiration of the period within which all claims may be filed under the provisions of Civil Code section 9356. If the Contractor has placed securities with the Agency as described herein, the Contractor shall be paid a sum equal to one hundred percent (100%) of the contract price less any amounts due the Agency under the terms of the Contract.
- B. Unless Contractor advises the Agency in writing prior to acceptance of the final five percent (5%) or the percentage specified in the notice inviting bids where the Agency has adopted a finding of substantially complete, or the return of securities held as described herein, said acceptance shall operate as a release to the Agency of all claims and all liability to Contractor for all things done or furnished in connection with this work and for every act of negligence of the Agency and for all other claims relating to or arising out of this work. If Contractor advises the Agency in writing prior to acceptance of final payment or return of the securities that there is a dispute regarding the amount due the Contractor, the Agency may pay the undisputed amount contingent upon the Contractor furnishing a release of all undisputed claims against the Agency with the disputed claims in stated amounts being specifically excluded by Contractor from the operation of the release. No payments, however, final or otherwise, shall operate to release Contractor or its sureties from the Faithful Performance Bond, Labor and Material Payment Bond, or from any other obligation under this contract.
- C. In case of suspension of the contract any unpaid balance shall be and become the sole and absolute property of the Agency to the extent necessary to repay the Agency any excess in the cost of the Work above the contract price.
- D. Final payment shall be made no later than 60 days after the date of acceptance of the Work by the Agency or the date of occupation, beneficial use and enjoyment of the Work by the Agency including any operation only for testing, start-up or commissioning accompanied by cessation of labor on the Work, provided that a release of liens and claims has been received from the Contractor pursuant to Civil Code section 8136. In the event of a dispute between the Agency and the Contractor, the Agency may withhold from the final payment an amount not to exceed 150% of the disputed amount.
- E. Within ten (10) calendar days from the time that all or any portion of the retention proceeds are received by Contractor, Contractor shall pay each of its subcontractors

from whom retention has been withheld each subcontractor's share of the retention received. However, if a retention payment received by Contractor is specifically designated for a particular subcontractor, payment of the retention shall be made to the designated subcontractor if the payment is consistent with the terms of the subcontract.

ARTICLE 46. OCCUPANCY

The Agency reserves the right to occupy or utilize any portion of the Work at any time before completion, and such occupancy or use shall not constitute acceptance of any part of Work covered by this Contract. This use shall not relieve the Contractor of its responsibilities under the Contract.

ARTICLE 47. INDEMNIFICATION

To the fullest extent permitted by law, Contractor shall immediately defend (with counsel of the Agency's choosing), indemnify and hold harmless the Agency, officials, officers, agents, employees, and representatives, and each of them from and against:

- A. Any and all claims, demands, causes of action, costs, expenses, injuries, losses or liabilities, in law or in equity, of every kind or nature whatsoever, but not limited to, injury to or death, including wrongful death, of any person, and damages to or destruction of property of any person, arising out of, related to, or in any manner directly or indirectly connected with the Work or this Contract, including claims made by subcontractors for nonpayment, including without limitation the payment of all consequential damages and attorney's fees and other related costs and expenses, however caused, regardless of whether the allegations are false, fraudulent, or groundless, and regardless of any negligence of the Agency or its officers, employees, or authorized volunteers (including passive negligence), except the sole negligence or willful misconduct or active negligence of the Agency or its officials, officers, employees, or authorized volunteers.
- B. Contractor's defense and indemnity obligation herein includes, but is not limited to damages, fines, penalties, attorney's fees and costs arising from claims under the Americans with Disabilities Act (ADA) or other federal or state disability access or discrimination laws arising from Contractor's Work during the course of construction of the improvements or after the Work is complete, as the result of defects or negligence in Contractor's construction of the improvements.
- C. Any and all actions, proceedings, damages, costs, expenses, fines, penalties or liabilities, in law or equity, of every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor;
- D. Any and all losses, expenses, damages (including damages to the Work itself), attorney's fees, and other costs, including all costs of defense which any of them may incur with respect to the failure, neglect, or refusal of Contractor to faithfully perform the Work and all of Contractor's obligations under the agreement. Such costs, expenses, and damages shall include all costs, including attorney's fees, incurred by the indemnified parties in any lawsuit to which they are a party.

Contractor shall immediately defend, at Contractor's own cost, expense and risk, with the Board of Directors' choosing, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against the Agency, its officials, officers, agents, employees and representatives. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the Agency, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse the Agency, its officials, officers, agents, employees and representatives for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code section 2782.

ARTICLE 48. PROCEDURE FOR RESOLVING DISPUTES

In accordance with Public Contract Code sections 20104 *et seq.* and other applicable law, public works claims of \$375,000 or less which arise between the Contractor and the Agency shall be resolved under the following statutory procedure unless the Agency has elected to resolve the dispute pursuant to Public Contract Code section 10240 *et seq.*

- A. All Claims. All claims shall be submitted in writing and accompanied by substantiating documentation. Claims must be filed on or before the date of final payment unless other notice requirements are provided in the contract. "Claim" means a separate demand by the Contractor for (1) a time extension, (2) payment of money or damages arising from work done by or on behalf of the Contractor and payment of which is not otherwise expressly provided for or the Contractor is not otherwise entitled, or (3) an amount the payment of which is disputed by the Agency.
- B. Claims Under \$50,000. The Agency shall respond in writing to the claim within 45 calendar days of receipt of the claim, or, the Agency may request, in writing, within 30 calendar days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the Agency may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the Agency and the Contractor. The Agency's written response shall be submitted 15 calendar days after receiving the additional documentation, or within the same period of time taken by the Contractor to produce the additional information, whichever is greater.
- C. Claims over \$50,000 but less than or equal to \$375,000. The Agency shall respond in writing within 60 calendar days of receipt, or, may request in writing within 30 calendar days of receipt of the claim, any additional documents supporting the claim or relating to defenses or claims the Agency may have against the Agency. If additional information is needed thereafter, it shall be provided pursuant to mutual agreement between the Agency and the Contractor. The Agency response shall be submitted within 30 calendar days after receipt of the further documents, or within the same period of time taken by the Contractor to produce the additional information or documents, whichever is greater. The Contractor shall make these records and documents available at all reasonable times, without any direct charge.
- D. All Claims. The Contractor will submit the claim justification in the following format:
 - 1. Summary of claim merit and price, and Contract clause pursuant to which the claim is made.

- 2. List of documents relating to claim:
 - a. Specifications
 - b. Drawings
 - c. Clarifications (Requests for Information)
 - d. Schedules
 - e. Other (All Related Documents)
- 3. Chronology of events and correspondence.
- 4. Analysis of claim merit.
- 5. Analysis of claim cost.
- 6. Analysis of time impact analysis in CPM format.
- 7. Cover letter and certification of validity of the claim.
- E. All Claims. Notwithstanding the foregoing, all public works claims between the Contractor and the Agency shall be resolved pursuant to the procedures set forth in Public Contract Code section 9204. The Agency will provide a written response to the Contractor identifying what portion of the claim is disputed and what portion is undisputed within 45 days of receipt of the claim, unless the parties mutually agree to extend the time for response. If the Agency does not respond within the 45-day time period, or as extended by mutual agreement, the claim shall be deemed rejected in its entirety.
- F. All Claims. If the Contractor disputes the Agency's response, or if the Agency fails to respond within the statutory time period(s), the Contractor may so notify the Agency within 15 calendar days of the receipt of the response or the failure to respond, and demand an informal conference to meet and confer for settlement. Upon such demand, the Agency shall schedule a meet and confer conference within 30 calendar days.
- G. All Claims. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion thereof remains in dispute, the Agency shall provide the Contractor with a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any portion of the claim that remains in dispute shall be submitted to nonbinding mediation. The selection of the mediator shall be in accordance with Public Contract Code section 9204, and the Agency and the Contractor shall equally share the associated mediator fees. Each party will be responsible for its own attorneys' fees and other costs.
- H. The Contractor must comply with the claims filing procedures set forth in Government Code sections 900 et seq. for any claim or any portion thereof that remains in dispute, after the meet and confer conference. For purposes of those provisions, the time within which a claim must be filed shall be tolled from the time the Contractor submits the written claim until the time the claim is denied, including any time utilized for the meet and confer conference. Submission of a claim, properly certified, with all required supporting documentation, and written rejection or denial of all or part of the claim by

the Agency, is a condition precedent to any action, proceeding, litigation, suit, general conditions claim, or demand for arbitration by Contractor.

I. Government Code Claim. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, construction claims and/or changed conditions, the Contractor must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the Agency. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, construction claims, and/or changed conditions have been followed by Contractor. If no such Government Code claim is submitted, or if the prerequisite contractual requirements are not otherwise satisfied as specified herein, Contractor shall be barred from bringing and maintaining a valid lawsuit against the Agency.

ARTICLE 49. AGENCY'S RIGHT TO TERMINATE CONTRACT

A. Termination for Cause by the Agency:

- 1. In the sole estimation of the Agency, if the Contractor refuses or fails to prosecute the Work or any separable part thereof with such diligence as will insure its completion within the time specified by the Contract Documents, or any extension thereof, or fails to complete such Work within such time, or if the Contractor should be adjudged a bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or the Contractor or any of its subcontractors should violate any of the provisions of this Contract, the Agency may serve written notice upon the Contractor and its Surety of the Agency's intention to terminate this Contract. This notice of intent to terminate shall contain the reasons for such intention to terminate this Contract, and a statement to the effect that the Contractor's right to perform this Contract shall cease and terminate upon the expiration of ten (10) calendar days unless such violations have ceased and arrangements satisfactory to the Agency have been made for correction of said violations.
- 2. In the event that the Agency serves such written notice of termination upon the Contractor and the Surety, the Surety shall have the right to take over and perform the Contract. If the Surety does not: (1) give the Agency written notice of Surety's intention to take over and commence performance of the Contract within 15 calendar days of the Agency's service of said notice of intent to terminate upon Surety; and (2) actually commence performance of the Contract within 30 calendar days of the Agency's service of said notice upon Surety; then the Agency may take over the Work and prosecute the same to completion by separate contract or by any other method it may deem advisable for the account and at the expense of the Contractor.
- 3. In the event that the Agency elects to obtain an alternative performance of the Contract as specified above: (1) the Agency may, without liability for so doing, take possession of and utilize in completion of the Work such materials, appliances, plants and other property belonging to the Contractor that are on the site and reasonably necessary for such completion (A special lien to secure the claims of the Agency in the event of such suspension is hereby created against

any property of Contractor taken into the possession of the Agency under the terms hereof and such lien may be enforced by sale of such property under the direction of the Board of Directors without notice to Contractor. The proceeds of the sale after deducting all expenses thereof and connected therewith shall be credited to Contractor. If the net credits shall be in excess of the claims of the Agency against Contractor, the balance will be paid to Contractor or Contractor's legal representatives.); and (2) Surety shall be liable to the Agency for any cost or other damage to the Agency necessitated by the Agency securing an alternate performance pursuant to this Article.

B. Termination for Convenience by the Agency:

- 1. The Agency may terminate performance of the Work called for by the Contract Documents in whole or, from time to time, in part, if the Agency determines that a termination is in the Agency's interest.
- 2. The Contractor shall terminate all or any part of the Work upon delivery to the Contractor of a Notice of Termination specifying that the termination is for the convenience of the Agency, the extent of termination, and the Effective Date of such termination.
- 3. After receipt of Notice of Termination, and except as directed by the Agency's Representative, the Contractor shall, regardless of any delay in determining or adjusting any amounts due under this Termination for Convenience clause, immediately proceed with the following obligations:
 - a. Stop Work as specified in the Notice.
 - b. Complete any Work specified in the Notice of Termination in a least cost/shortest time manner while still maintaining the quality called for under the Contract Documents.
 - c. Leave the property upon which the Contractor was working and upon which the facility (or facilities) forming the basis of the Contract Document is situated in a safe and sanitary manner such that it does not pose any threat to the public health or safety.
 - d. Terminate all subcontracts to the extent that they relate to the portions of the Work terminated.
 - e. Place no further subcontracts or orders, except as necessary to complete the continued portion of the Contract.
 - f. Submit to the Agency's Representative, within ten (10) calendar days from the Effective Date of the Notice of Termination, all of the usual documentation called for by the Contract Documents to substantiate all costs incurred by the Contractor for labor, materials and equipment through the Effective Date of the Notice of Termination. Any documentation substantiating costs incurred by the Contractor solely as a result of the Agency's exercise of its right to terminate this Contract pursuant to this clause, which costs the contractor is authorized under the Contract documents to incur, shall: (1) be submitted to and received

by the Engineer no later than 30 calendar days after the Effective Date of the Notice of Termination; (2) describe the costs incurred with particularity; and (3) be conspicuously identified as "Termination Costs occasioned by the Agency's Termination for Convenience."

- 4. Termination of the Contract shall not relieve Surety of its obligation for any just claims arising out of or relating to the Work performed.
- 5. In the event that the Agency exercises its right to terminate this Contract pursuant to this clause, the Agency shall pay the Contractor, upon the Contractor's submission of the documentation required by this clause and other applicable provisions of the Contract Documents, the following amounts:
 - a. All actual reimbursable costs incurred according to the provisions of this Contract.
 - b. A reasonable allowance for profit on the cost of the Work performed, provided Contractor establishes to the satisfaction of the Agency's Representative that it is reasonably probable that Contractor would have made a profit had the Contract been completed and provided further, that the profit allowed shall in no event exceed fifteen (15%) percent of the costs.
 - c. A reasonable allowance for Contractor's administrative costs in determining the amount payable due to termination of the Contract under this Article.
- C. Notwithstanding any other provision of this Article, when immediate action is necessary to protect life and safety or to reduce significant exposure or liability, the Agency may immediately order Contractor to cease Work on the Project until such safety or liability issues are addressed to the satisfaction of the Agency or the Contract is terminated.

ARTICLE 50. WARRANTY AND GUARANTEE OF WORK

- A. Contractor hereby warrants that materials and Work shall be completed in conformance with the Contract Documents and that the materials and Work provided will fulfill the requirements of this Warranty. Contractor hereby agrees to repair or replace, at the discretion of the Agency, any or all Work that may prove to be defective in its workmanship, materials furnished, methods of installation or fail to conform to the Contract Document requirements together with any other Work which may be damaged or displaced by such defect(s) within a period of one (1) year from the date of the Notice of Completion of the Project without any expense whatever to the Agency, ordinary wear and tear and unusual abuse and neglect excepted. Contractor shall be required to promptly repair or replace defective equipment or materials, at Contractor's option. All costs associated with such corrective actions and testing, including the removal, replacement, and reinstitution of equipment and materials necessary to gain access, shall be the sole responsibility of the Contractor.
- B. For any Work so corrected, Contractor's obligation hereunder to correct defective Work shall be reinstated for an additional one (1) year period, commencing with the date of acceptance of such corrected Work. The reinstatement of the one (1) year warranty shall apply only to that portion of work that was corrected. Contractor shall

perform such tests as Agency may require to verify that any corrective actions, including, without limitation, redesign, repairs, and replacements comply with the requirements of the Contract. In the event of Contractor's failure to comply with the above-mentioned conditions within ten (10) calendar days after being notified in writing of required repairs, to the reasonable satisfaction of the Agency, the Agency shall have the right to correct and replace any defective or non-conforming Work and any work damaged by such work or the replacement or correction thereof at Contractor's sole expense. Contractor shall be obligated to fully reimburse the Agency for any expenses incurred hereunder immediately upon demand.

- C. In addition to the warranty set forth in this Article, Contractor shall obtain for Agency all warranties that would be given in normal commercial practice and assign to Agency any and all manufacturer's or installer's warranties for equipment or materials not manufactured by Contractor and provided as part of the Work, to the extent that such third-party warranties are assignable and extend beyond the warranty period set forth in this Article. Contractor shall furnish the Agency with all warranty and guarantee documents prior to final Acceptance of the Project by the Agency as required.
- D. When specifically indicated in the Contract Documents or when directed by the Engineer, the Agency may furnish materials or products to the Contractor for installation. In the event any act or failure to act by Contractor shall cause a warranty applicable to any materials or products purchased by the Agency for installation by the Contractor to be voided or reduced, Contractor shall indemnify Agency from and against any cost, expense, or other liability arising therefrom, and shall be responsible to the Agency for the cost of any repairs, replacement or other costs that would have been covered by the warranty but for such act or failure to act by Contractor.
- E. The Contractor shall remedy at its expense any damage to Agency-owned or controlled real or personal property.
- F. The Agency shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage. The Contractor shall within ten (10) calendar days after being notified commence and perform with due diligence all necessary Work. If the Contractor fails to promptly remedy any defect, or damage; the Agency shall have the right to replace, repair or otherwise remedy the defect, or damage at the Contractor's expense.
- G. In the event of any emergency constituting an immediate hazard to health, safety, property, or licensees, when caused by Work of the Contractor not in accordance with the Contract requirements, the Agency may undertake at Contractor's expense, and without prior notice, all Work necessary to correct such condition.
- H. Acceptance of Defective Work.
 - 1. If, instead of requiring correction or removal and replacement of Defective Work, the Agency prefers to accept it, Agency may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Agency's evaluation of and determination to accept such Defective Work and for the diminished value of the Work.

- If any acceptance of defective work occurs prior to release of the Project Retention, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Agency shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work and all costs incurred by Agency.
- 3. If the Project Retention is held in an escrow account as permitted by the Contract Documents, Contractor will promptly alert the escrow holder, in writing, of the amount of Retention to be paid to Agency.
- 4. If the acceptance of Defective Work occurs after release of the Project Retention, an appropriate amount will be paid by Contractor to Agency.
- I. Agency May Correct Defective Work.
 - 1. If Contractor fails within a reasonable time after written notice from Agency's Representative to correct Defective Work, or to remove and replace rejected Work as required by Agency, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Agency may, after seven (7) Days' written notice to Contractor, correct, or remedy any such deficiency.
 - 2. In connection with such corrective or remedial action, Agency may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Agency has paid Contractor but which are stored elsewhere. Contractor shall allow Agency and Agency's Representative, and the agents, employees, other contractors, and consultants of each of them, access to the Site to enable Agency to exercise the rights and remedies to correct the Defective Work.
 - 3. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Agency correcting the Defective Work will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions into the Contract Documents with respect to the Work; and Agency shall be entitled to an appropriate decrease in the Contract Price.
 - 4. Such claims, costs, losses and damages will include, but not be limited to, all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Defective Work.
 - 5. If the Change Order is executed after all payments under the Contract have been paid by Agency and the Project Retention is held in an escrow account as permitted by the Contract Documents, Contractor will promptly alert the escrow holder, in writing, of the amount of Retention to be paid to Agency.
 - 6. If the Change Order is executed after release of the Project Retention, an appropriate amount will be paid by Contractor to Agency.

- 7. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to Agency correcting Defective work.
- J. Nothing in the Warranty or in the Contract Documents shall be construed to limit the rights and remedies available to Agency at law or in equity, including, but not limited to, Code of Civil Procedure section 337.15.

ARTICLE 51. DOCUMENT RETENTION & EXAMINATION

- A. In accordance with Government Code section 8546.7, records of both the Agency and the Contractor shall be subject to examination and audit by the State Auditor General for a period of three (3) years after final payment.
- B. Contractor shall make available to the Agency any of the Contractor's other documents related to the Project immediately upon request of the Agency.
- C. In addition to the State Auditor rights above, the Agency shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy and completeness of the cost or pricing data at no additional cost to the Agency, for a period of four (4) years after final payment.

ARTICLE 52. SEPARATE CONTRACTS

- A. The Agency reserves the right to let other contracts in connection with this Work or on the Project site. Contractor shall permit other contractors reasonable access and storage of their materials and execution of their work and shall properly connect and coordinate its Work with theirs.
- B. To ensure proper execution of its subsequent Work, Contractor shall immediately inspect work already in place and shall at once report to the Engineer any problems with the Work in place or discrepancies with the Contract Documents.
- C. Contractor shall ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by the Agency in prosecution of the Project to the end that Contractor may perform this Contract in the light of such other contracts, if any. Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy at site of the Project. Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the Project. If simultaneous execution of any contract for the Project is likely to cause interference with performance of some other contract or contracts, the Engineer shall decide which Contractor shall cease Work temporarily and which contractor shall continue or whether work can be coordinated so that contractors may proceed simultaneously. The Agency shall not be responsible for any damages suffered or for extra costs incurred by Contractor resulting directly or indirectly from award, performance, or attempted performance of any other contract or contracts on the Project site.

ARTICLE 53. NOTICE AND SERVICE THEREOF

All notices shall be in writing and either served by personal delivery or mailed to the other party as designated in the Bid Forms. Written notice to the Contractor shall be addressed to Contractor's principal place of business unless Contractor designates another address in writing for service of notice. Notice to Agency shall be addressed to the Agency as designated in the Notice Inviting Bids unless Agency designates another address in writing for service of notice. Notice shall be effective upon receipt or five (5) calendar days after being sent by first class mail, whichever is earlier. Notice given by facsimile shall not be effective unless acknowledged in writing by the receiving party.

ARTICLE 54. NOTICE OF THIRD-PARTY CLAIMS

Pursuant to Public Contract Code section 9201, the Agency shall provide the Contractor with timely notification of the receipt of any third-party claims relating to the Contract. The Agency is entitled to recover reasonable costs incurred in providing such notification.

ARTICLE 55. STATE LICENSE BOARD NOTICE

Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

ARTICLE 56. INTEGRATION

- A. **Oral Modifications Ineffective.** No oral order, objection, direction, claim or notice by any party or person shall affect or modify any of the terms or obligations contained in the Contract Documents.
- B. **Contract Documents Represent Entire Contract.** The Contract Documents represent the entire agreement of the Agency and Contractor.

ARTICLE 57. ASSIGNMENT OF CONTRACT

Contractor shall not assign, transfer, convey, sublet or otherwise dispose of the rights or title of interest of any or all of this contract without the prior written consent of the Agency. Any assignment or change of Contractor's name of legal entity without the written consent of the Agency shall be void. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or Material supplied for performance of Work called for under the Contract Documents in favor of all persons, firms, or corporations rendering such services or supplying such Materials to the extent that claims are filed pursuant to the Civil Code, the Code of Civil Procedure or the Government Code.

ARTICLE 58. CHANGE IN NAME AND NATURE OF CONTRACTOR'S LEGAL ENTITY

Should a change be contemplated in the name or nature of the Contractor's legal entity, the Contractor shall first notify the Agency in order that proper steps may be taken to have the change

reflected on the Contract and all related documents. No change of Contractor's name or nature will affect Agency's rights under the Contract, including but not limited to the bonds.

ARTICLE 59. ASSIGNMENT OF ANTITRUST ACTIONS

Pursuant to Public Contract Code section 7103.5, in entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, Contractor or subcontractor offers and agrees to assign to the Agency all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC, Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from the purchase of goods, services, or materials pursuant to this contract or any subcontract. This assignment shall be made and become effective at the time the Agency tenders final payment to the Contractor, without further acknowledgment by the parties.

ARTICLE 60. PROHIBITED INTERESTS

No Agency official or representative who is authorized in such capacity and on behalf of the Agency to negotiate, supervise, make, accept, or approve, or to take part in negotiating, supervising, making, accepting or approving any engineering, inspection, construction or material supply contract or any subcontract in connection with construction of the project, shall be or become directly or indirectly interested financially in the Contract.

ARTICLE 61. CONTROLLING LAW

Notwithstanding any subcontract or other contract with any subcontractor, supplier, or other person or organization performing any part of the Work, this Contract shall be governed by the law of the State of California excluding any choice of law provisions.

ARTICLE 62. JURISDICTION VENUE

Contractor and any subcontractor, supplier, or other person or organization performing any part of the Work agrees that any action or suits at law or in equity arising out of or related to the bidding, award, or performance of the Work shall be maintained in the Superior Court of Riverside County, California, and expressly consent to the jurisdiction of said court, regardless of residence or domicile, and agree that said court shall be a proper venue for any such action.

ARTICLE 63. LAWS AND REGULATIONS

- A. Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on conduct of work as indicated and specified. If Contractor observes that drawings and specifications are at variance therewith, it shall promptly notify the Engineer in writing and any necessary changes shall be adjusted as provided for in this Contract for changes in work. If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, it shall bear all costs arising therefrom.
- B. Contractor shall be responsible for familiarity with the Americans with Disabilities Act ("ADA") (42 U.S.C. § 12101 et seq.). The Work will be performed in compliance with ADA regulations.

ARTICLE 64. PATENTS

Contractor shall hold and save the Agency, officials, officers, employees, and authorized volunteers harmless from liability of any nature or kind of claim therefrom including costs and expenses for or on account of any patented or unpatented invention, article or appliance manufactured, furnished or used by Contractor in the performance of this contract.

ARTICLE 65. OWNERSHIP OF CONTRACT DOCUMENTS

All Contract Documents furnished by the Agency are Agency property. They are not to be used by Contractor or any subcontractor on other work nor shall Contractor claim any right to such documents. With exception of one complete set of Contract Documents, all documents shall be returned to the Agency on request at completion of the Work.

ARTICLE 66. NOTICE OF TAXABLE POSSESSORY INTEREST

In accordance with Revenue and Taxation Code section 107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which Contractor will be responsible.

ARTICLE 67. SURVIVAL OF OBLIGATIONS

All reresentations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

00 73 13 - SPECIAL CONDITIONS

1.1 <u>Engineer of Record.</u>

A. For purposes of this Project, the Engineer of Record or Engineer shall be:

Land Engineering Consultants, Inc. 650 Avenue K
Calimesa, CA 92320
(909) 795-8882
steve@lecincorporated.com

1.2 Location of the Project.

A. The Project components are located as follows:

Recharge Basin Site: Located in the District of Calimesa, Riverside County, on the west side of 4th Street between County Line Road and Avenue L.

Raw Waterline Extension: Located in the District of Calimesa, Riverside County, within 4th Street between County Line Road and Avenue L.

Raw Waterline Rehabilitation: Located in the City of Yucaipa, San Bernardino County, within County Line Road between 4th Street and Bryant Street, and in the District of Calimesa, Riverside County, within and south of the intersection of 4th Street and County Line Road.

Street Improvements (4th Street): Located in the District of Calimesa, Riverside County, within 4th Street between County Line Road and Avenue L.

Street Improvements (Buena Vista Court): Located the District of Calimesa, Riverside County, within Buena Vista Court which is a cul-de-sac east of 5th Street between County Line Road and Avenue L.

1.3 Status of the Project Area and Rights-of-Way.

- A. Agency, at its expense, will provide all rights-of-way or permits, or both, covering the crossing of private property and public and private rights-of-way necessary for the permanent Work; provided, however, Contractor shall, at its expense, obtain any bonds or insurance policies or pay any fees and enter into any agreements required by a controlling authority, e.g., Caltrans or Union Pacific Railroad Company, before Contractor enters upon any property or right-of-way under the jurisdiction of any such controlling authority for the purpose of performing Work.
- B. Agency has acquired or is negotiating to acquire any rights-of-way, or both, necessary for the permanent Work.
- C. If such permits are required, all operations of Contractor shall conform to the restrictions, regulations, and requirements set forth in said permits, copies of which will be included in the Contract Documents.

- D. Contractor may be required, as a condition for receiving final payment, to obtain, and provide Agency's Representative with copies of, executed damage releases from the owners of public and private property whose property has been damaged by the Work. The damage releases will be on a form provided by Agency.
- E. Contractor shall, also, as a condition for receiving final payment, obtain, and provide Agency's Representative with copies of, executed damage releases from the owners of certain public and private property or areas which have been crossed by the Work or otherwise affected by the Work. The damage releases will be on a form provided by Agency.

1.4 Site Data.

- A. The data provided herein is for the information of Contractor and is subject to all limitations and conditions set forth in the Contract Documents.
- B. <u>Subsurface Exploration Data.</u> The following data are available at the Agency headquarters:
 - 1. Preliminary Geotechnical Investigation(s) Prepared by LOR Geotechnical, Inc. Project Numbers 33109.1 and 33109.14.
- C. Other Site Data. The following data are available for inspection at Agency's office:
 - Final Initial Study / Mitigated Negative Declaration County Line Road Recharge Basin and Turnout Project State Clearinghouse No. 2024080294
 - 2. Mitigation Monitoring and Reporting Program

Copies of these reports, drawings and other materials may be examined at Agency's office during regular business hours.

1.5 <u>Designation of Agency</u>'s Representative.

A. Unless otherwise modified by Agency, Agency's Representative for construction activities shall be:

Land Engineering Consultants, Inc. 650 Avenue K Calimesa, CA 92320 (909) 795-8882

1.6 Project Retention

In accordance with Public Contract Code \S 7201, Agency will withhold 5% of each progress payment as retention on the Project.

- 1.7 Reverse Liquidated Damages Due to Unreasonable Agency Delay.
 - A. In compliance with the provisions of California Public Contract Code § 7102, the Contractor will be compensated for damages incurred due to delays in completing the

Work due solely to the fault of the Agency, where such delay is unreasonable under the circumstances and not contemplated by the parties and such delay is not the result of Additional Work. The Contractor and Agency agree that determining actual damages is impracticable and extremely difficult. As such, the Contractor shall be entitled to the appropriate time extension and to payment of liquidated damages in the sum of \$500 per Day of delay in excess of the time specified for the Completion of the Work. Such amount shall constitute the only payment allowed and shall necessarily include all overhead (direct or indirect), all profit, all administrative costs, all bond costs, all labor, materials, equipment and rental costs, and any other costs, expenses and fees incurred or sustained as a result of such delay. The Contractor expressly agrees to be limited solely to the liquidated damages for all such delays as defined in this subsection.

1.8 <u>Liquidated Damages Due to Contractor Delay.</u>

- A. Time is of the essence. Should Contractor fail to complete all or any part of the Work within the time specified in the Contract Documents, Agency will suffer damage, the amount of which is difficult, if not impossible, to ascertain and, pursuant to the authority of Government Code section 53069.85, Agency shall therefore be entitled to \$3500 per Day as liquidated damages for each Day or part thereof that actual completion extends beyond the time specified.
- B. Liquidated damages may be deducted from progress payments due to the Contractor. Project retention or may be collected directly from Contractor, or from Contractor's surety. These provisions for liquidated damages shall not prevent Agency, in case of Contractor's default, from terminating the Contractor.

1.9 Utility Outages – Notices to Residents.

- A. Should Contractor's operations require interruption of any utility service, Contractor shall notify Agency at least ten (10) Days prior to the scheduled outage. Contractor will notify all impacted residents on a form provided by Agency at least seven (7) Days prior to the scheduled outage.
- B. Contractor shall be responsible for providing, at its cost, any temporary utility or facilities necessitated by the utility outage.

1.10 <u>Coordination with Other Contractors.</u>

The City of Yucaipa is undertaking a pavement rehabilitation project within County Line Road, which overlaps with or is adjacent to the work area covered under this Contract. The Contractor shall coordinate all work activities in the mutual areas with the City of Yucaipa and their contractor to avoid conflicts and ensure the orderly completion of both projects. This includes attending coordination meetings and maintaining ongoing communication regarding schedules, traffic control, access, and construction sequencing.

Any delays, inefficiencies, or added efforts resulting from this required coordination shall be considered incidental to the Work. The Contractor shall not be entitled to additional compensation or time extensions due to impacts

associated with the City's project or its contractor. It is the Contractor's responsibility to plan and execute the Work in a manner that accommodates these coordination requirements.

END OF SPECIAL CONDITIONS



01 00 00 - GENERAL REQUIREMENTS

PART 1 -- GENERAL

1.1 DESCRIPTION

A. The project includes construction of onsite grading and site improvements for a new recharge basin, along with offsite utility and roadway work. Offsite improvements consist of pipeline extensions, rehabilitation of existing pipelines using cured-in-place pipe (CIPP) lining, and associated street improvements.

PART 2 -- EXECUTION

2.1 LAYOUT OF WORK AND QUANTITY SURVEYS

A. General. The Contractor shall utilize a properly licensed surveyor to perform all layout surveys required for the control and completion of the Work, and all necessary surveys to compute quantities of Work performed.

Ag<mark>en</mark>cy and/or the Engineer of Record has established primary control to be used by the Contractor for establishing lines and grades required for the Work.

Primary control consists of benchmarks and horizontal control points in the vicinity of the Work. A listing and identification of the primary control is provided on the Drawings. Before beginning any layout work or construction activity, the Contractor shall check and verify primary control, and shall advise the Agency Representative of any discrepancies.

B. Quantity surveys. The Contractor shall perform such surveys and computations as are necessary to determine quantities of Work performed or placed during each progress payment period, and shall perform all surveys necessary for the Agency Representative to determine final quantities of Work in place. The Agency Representative will determine final quantities based upon the survey data provided by the Contractor, and the design lines and grades. If requested by the Agency Representative, the Contractor shall provide an electronic copy of data used for quantity computations.

All surveys performed for measurement of final quantities of Work and material shall be subject to approval of Agency's Representative. Unless waived by Agency's Representative in each specific case, quantity surveys made by the Contractor shall be made in the presence of Agency's Representative.

C. Surveying

- 1. Accuracy. Degree of accuracy shall be an order high enough to satisfy tolerances specified for the Work and the following:
 - (a) Right-of-way and alignment of tangents and curves shall be within 0.1 foot.

- (b) Structure points shall be set within 0.01 foot, except where operational function of the special features or installation of metalwork and equipment require closer tolerances. When formwork has been placed and is ready for concrete, the Contractor shall check the formwork for conformance with the drawings and to ensure that the forms are sufficiently within the tolerance limits for the completed work.
- (c) Cross-section points shall be located within 0.1 foot, horizontally and vertically.
- (d) Aerial Mapping shall meet National Mapping Standards for 2-foot contour intervals.
- D. Records. Survey data shall be recorded in accordance with recognized professional surveying standards. Original field notes, computations, and other surveying data shall be recorded on electronic data collectors or in standard field books and must be of sufficient quality to enable the Contractor to prepare accurate record drawings as required by the Contract Documents.
- E. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required for surveys for the layout of work and quantity surveys shall be included in the Schedule of Pay Items for items of work requiring the surveys. No additional compensation shall be made to the Contractor for this Work.

2.2 SCHEDULE

- A. Estimated Schedule. Within 14 Days after the issuance of the Notice to Proceed, Contractor shall prepare a Project schedule and shall submit this to the Engineer for Approval. The receipt or Approval of any schedules by the Engineer or the Agency shall not in any way relieve the Contractor of its obligations under the Contract Documents. The Contractor is fully responsible to determine and provide for any and all staffing and resources at levels which allow for good quality and timely completion of the Project. Contractor's failure to incorporate all elements of Work required for the performance of the Contract or any inaccuracy in the schedule shall not excuse the Contractor from performing all Work required for a completed Project within the specified Contract time period. If the required schedule is not received by the time the first payment under the Contract is due, Contractor shall not be paid until the schedule is received, reviewed and accepted by the Engineer.
- B. Schedule Contents. The schedule shall indicate the beginning and completion dates of all phases of construction; critical path for all critical, sequential time related activities; and "float time" for all "slack" or "gaps" in the non-critical activities. The schedule shall clearly identify all staffing and other resources which in the Contractor's judgment are needed to complete the Project within the time specified for completion. The overall Project Schedule duration shall be within the Contract time.
- C. Schedule Updates. Contractor shall continuously update its construction schedule. Contractor shall submit an updated and accurate construction schedule to the Engineer monthly, and when requested by the Engineer. Contractor shall also submit schedules showing a two-week detailed look-ahead at weekly meetings conducted with the Agency and their representatives. The Engineer may withhold progress payments or other amounts due under the Contract Documents if Contractor fails to submit an updated and accurate construction schedule.

2.3 PROTECTION OF WORK AND PROPERTY

- A. All traffic detector loops, fences, walls, culverts, property line monuments, or other obstructions (except property line monuments within five (5) feet of the centerline of the mains) which are removed, damaged, or destroyed in the course of the Work, shall be replaced or repaired to the original condition. If Contractor provides the Agency with reasonable notice of the need for such repair or replacement, it shall be performed by the Agency. If the Contractor fails to provide the Agency with reasonable notice, the repair or replacement shall be performed by and at the expense of the Contractor to the satisfaction of the Agency, whether or not those obstructions have been shown on the Plans, unless otherwise stated herein. It is then the Contractor's responsibility to employ at its expense a Licensed Land Surveyor to restore all property line monuments located more than five (5) feet from the centerline of the mains, which are destroyed or obliterated. Property line monuments located within five (5) feet of the centerline of the mains will be replaced by the Agency at no expense to the Contractor, provided the Agency is notified at least 48 hours before the property line monuments are damaged.
- B. Contractor shall provide such heat, covering, and enclosures as are necessary to protect all Work, materials, equipment, appliances, and tools against damage by weather conditions.
- C. Contractor shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, and other adjoining property and structures, and to avoid damage thereto, and Contractor shall repair any damage thereto caused by the Work operations. Contractor shall:
 - 1. Enclose the working area with a substantial barricade, and arrange work to cause minimum amount of inconvenience and danger to the public.
 - 2. Provide substantial barricades around any shrubs or trees indicated to be preserved.
 - 3. Deliver materials to the Project site over a route designated by the Engineer.
 - 4. Provide any and all dust control required and follow the Applicable air quality regulations as appropriate. If the Contractor does not comply, the Agency shall have the immediate authority to provide dust control and deduct the cost from payments to the Contractor.
 - Confine Contractor's apparatus, the storage of materials, and the operations of its workers to limits required by law, ordinances, permits, or directions of the Engineer. Contractor shall not unreasonably encumber the Project site with its materials.
 - 6. Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by a civil engineer or land surveyor acceptable to the Agency, at no cost to the Agency.

- 7. Ensure that existing facilities, fences and other structures are all adequately protected and that, upon completion of all Work, all facilities that may have been damaged are restored to a condition acceptable to the Agency.
- 8. Preserve and protect from injury all buildings, pole lines and all direction, warning and mileage signs that have been placed within the right-of-way.
- 9. At the completion of work each day, leave the Project site in a clean, safe condition.
- 10. Comply with any stage construction and traffic control plans. Access to residences and businesses shall be maintained at all times, unless otherwise permitted in writing by the Agency.
- D. These precautionary measures will apply continuously and not be limited to normal working hours. Full compensation for the Work involved in the preservation of life, safety and property as above specified shall be considered as included in the prices paid for the various contract items of Work, and no additional allowance will be made therefore.
- E. Should damage to persons or property occur as a result of the Work, Contractor shall be responsible for proper investigation, documentation, including video or photography, to adequately memorialize and make a record of what transpired. The Agency shall be entitled to inspect and copy any such documentation, video, or photographs.

2.4 SITE CONDITIONS SURVEYS

A. Work Included.

Contractor shall conduct thorough pre-construction and post-construction site condition surveys of the entire project area. Site Conditions surveys shall include written documentation of the conditions found, as well as photographs and video recordings of the area within at least 80 feet of any construction area and staging area. The written notes, photographs, and video shall be suitable for forensic purposes to resolve any damage claims that may arise as a result of construction.

B. Submittals.

- 1. Written documentation of site condition survey at pre-construction and post-construction.
- 2. Photographs as described herein of pre-construction and post-construction conditions.
- 3. Video recordings as described herein of pre-construction and post-construction conditions.
- 4. Submittals shall be made within three days of the surveys. All post-construction data shall be submitted prior to the final project inspection.
- C. Site Condition Written Documentation.

Written documentation shall include the time, date, and conditions under which the site survey was made. The documentation shall note the condition of structures, pavement, sidewalks, utilities, fences, and etc. within the work areas.

D. Photographs.

- General Contractor shall take enough photographs during each site survey to
 provide a record of conditions existing prior to construction and conditions after
 construction. Pre-construction photographs shall be taken prior to any
 construction or mobilization of equipment, but not more than one week prior to
 actual start of work. The pre-construction photographs may be staged at different
 times to match the progression of the Work.
- 2. The photographs shall document existing damage to public and private facilities, both prior to and after construction. Conditions to be documented include, but are not limited to: sidewalk cracks, broken curbs, separated property walls, improvements within public right-of-ways, access roads used, utility covers and markings, signs, pavement striping, pavement, unique or unusual conditions, adjacent driveways, landscaping, survey markers, and any feature directed by the Engineer. Private property that is adjacent to the public right-of-way shall be documented to the extent visible from the public right-of-way.
- 3. Photographs shall include items to indicate scale, as needed. In particular, scales or other items shall be laid next to close ups of structural cracks and other damaged areas being recorded. Scaling shall also be used to document elevation differences, as needed.
- 4. One set of color prints shall be submitted. Additional sets shall be available for reviewing in settling any construction disputes. A set of photos shall also be furnished in electronic format. The resolution shall be at least equal to 7 megapixels. All photos shall be documented as to time and date taken, photographer, project number, location, and orientation. Documentation shall include a brief description of objects photographed.

E. Video Recording.

- Video recordings shall document the conditions of the entire area affected by construction, as well as nearby structures and facilities. The general documentation requirements for videos are the same as for photographs. Video recorders shall accurately and continuously record the time and date.
- Video recordings shall include an audio portion made simultaneously during the videoing. The audio recording shall describe the location, time, orientation, and objects being recorded. Special commentary shall be provided for unusual conditions or damage noted.
- 3. Video equipment shall be capable of producing high resolution images and shall have zoom capabilities.

- 4. Video recordings shall provide an overall picture of the sites and shall provide detailed images of damaged areas. Video shall extend to the maximum height of structures.
- 5. The Engineer shall have the right to reject any audio video recordings submitted with unintelligible audio, uncontrolled pan or zoom, or of poor quality. Video recordings shall be repeated when rejected.
- 6. Video recordings shall be submitted with labels indicating the project, date, recorder, and other pertinent information. Recordings shall be submitted on standard DVDs in a standard format.

F. Timing.

Contractor shall provide written notice of the time scheduled for the site conditions survey and the place it is to begin. Contractor shall obtain the Engineer's concurrence prior to beginning the condition survey. The Engineer reserves the right to cancel the survey due to weather conditions or other problems. Videoing shall be done during times of good visibility and no videoing or photography shall be done during periods of visible precipitation or when standing water obscures pavement. Contractor shall provide the Engineer with an opportunity to have a representative present when taking the photos and provide guidance during photographing.

G. Site Surveyor.

The site condition surveyor(s) shall be experienced in construction and potential damage concerns. The site condition surveyor(s) shall be familiar with the photography and video equipment being used.

H. Field Quality Control.

Prior to submitting videos and photographs, the Contractor shall spot check the photos and videos in the field to insure they accurately reflect the actual conditions and to insure they are correctly labeled.

I. Soils Compaction Testing.

- 1. All soils compaction testing will be done by a licensed geotechnical engineer furnished by the Agency. Soils compaction testing will be done for all footings and foundations prior to placement of rebar or concrete.
- 2. For pipeline construction, soil compaction testing will be done at 100-foot intervals at the bottom of the trench prior to placement of pipe bedding and; at the bottom of the pavement section.

2.5 SUBMITTAL REQUIREMENTS FOR MANUALS AND RECORD DRAWINGS

- A. General. The Contractor shall furnish all materials and perform all Work required for furnishing submittals to Agency in accordance with Contract Documents.
- B. Technical Manuals.

- 1. The Contractor shall submit technical operation and maintenance information for each item of mechanical, electrical and instrumentation equipment in an organized manner in the Technical Manual. It shall be written so that it can be used and understood by Agency's operation and maintenance staff.
- 2. The Technical Manual shall be subdivided first by specification section number; second, by equipment item; and last, by "Category." "Categories" shall conform to the following (as applicable):
 - (a) Category 1 Equipment Summary:
 - (1) Summary: A summary table shall indicate the equipment name, equipment number, and process area in which the equipment is installed.
 - (b) Category 2 Operational Procedures:
 - (1) Procedures: Manufacturer-recommended procedures on the following shall be included in Part 2:
 - a. Installation
 - b. Adjustment
 - c. Startup
 - d. Location of controls, special tools, equipment required, or related instrumentation needed for operation
 - e. Operation procedures
 - f. Load changes
 - g. Calibration
 - h. Shutdown
 - i. Troubleshooting
 - j. Disassembly
 - k. Reassembly
 - I. Realignment
 - m. Testing to determine performance efficiency
 - n. Tabulation of proper settings for all pressure relief valves, low and high pressure switches, and other protection devices
 - o. List of all electrical relay settings including alarm and contact settings
 - (c) Category 3 Preventive Maintenance Procedures:

- (1) Procedures: Preventive maintenance procedures shall include all manufacturer-recommended procedures to be performed on a periodic basis, both by removing and replacing the equipment or component, and by leaving the equipment in place.
- (2) Schedules: Recommended frequency of preventive maintenance procedures shall be included. Lubrication schedules, including lubricant SAE grade, type, and temperature ranges, shall be covered.

(d) Category 4 - Parts List:

- (1) Parts List: A complete parts list shall be furnished, including a generic description and manufacturer's identification number for each part. Addresses and telephone numbers of the nearest supplier and parts warehouse shall be included.
- (2) Drawings: Cross-sectional or exploded view drawings shall accompany the parts list.
- (e) Category 5 Wiring Diagrams:
 - (1) Diagrams: Part 5 shall include complete internal and connection wiring diagrams for electrical equipment items.
- (f) Category 6 Shop Drawings:
 - (1) Drawings: This part shall include approved shop or fabrication drawings, complete with dimensions.
- (g) Category 7 Safety:
 - (1) Procedures: This part describes the safety precautions to be taken when operating and maintaining the equipment or working near it.
- (h) Category 8 Documentation:
 - (1) All equipment warranties, affidavits, and certifications required by the Technical Specifications shall be placed in this part.
- 3. The Contractor shall furnish to Agency six (6) identical Technical Manuals. Each set shall consist of one or more volumes, each of which shall be bound in a standard binder.
- C. Spare Parts List The Contractor shall furnish to Agency six (6) identical sets of spare parts information for all mechanical, electrical, and instrumentation equipment. The spare parts list shall include the current list price of each spare part. The spare parts list shall include those spare parts which each manufacturer recommends be maintained by Agency in inventory. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts to assist Agency in ordering. The Contractor shall cross-reference all spare parts lists to the equipment numbers designated in the Contract Documents. The spare parts lists shall be bound in standard size, 3-ring binder.

D. Record Drawings

- 1. The Contractor shall maintain one record set of Drawings at the Site. On these, it shall mark all Project conditions, locations, configurations, and any other changes or deviations which may vary from the information represented in the original Contract Documents, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to fully indicate the Work as actually constructed. These master record drawings of the as-built conditions, including all revisions made necessary by Addenda and Change Orders shall be maintained up-to-date during the progress of the Project. Red ink shall be used for alterations and notes. Notes shall identify relevant Change Orders by number and date.
- 2. For all Projects involving the installation of any pipeline, Contractor shall survey and record the top of the pipe at a minimum of every 100 linear feet, and at each bend, recording both the horizontal and vertical locations.
- Record drawings shall be accessible to Agency's Representative at all times during the construction period. Failure on the Contractor's part to keep record drawings current could result in withholding partial payment.
- 4. Upon Completion of the Project and as a condition of final acceptance, the Contractor shall finalize and deliver a complete set of Record Drawings to Agency's Representative. The information submitted by the Contractor will be assumed to be correct, and the Contractor shall be responsible for, and liable to Agency, for the accuracy of such information, and for any errors or omissions which may or may not appear on the Record Drawings.
- E. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete the Manuals and Record Drawings shall be included in Contractor's bid and distributed in the Schedule of Pay. No additional compensation shall be made to the Contractor for this Work.

2.6 MATERIALS

- A. Materials to be Furnished by the Contractor
 - 1. Inspection of Materials. Materials furnished by the Contractor which will become a part of the Project shall be subject to inspection at any one or more of the following locations, as determined by Agency's Representative: at the place of production or manufacture, at the shipping point, or at the site of the Work. To allow sufficient time to provide for inspection, the Contractor shall submit to Agency's Representative, at the time of issuance, copies of purchase orders or other written instrument confirming procurement of the materials, including drawings and other pertinent information, covering materials on which inspection will be made.

- 2. No later than fourteen (14) Days prior to manufacture of material, Contractor shall inform Agency's Representative, in writing, the date the material is to be manufactured.
- 3. Contractors Obligations. The inspection of materials at any of the locations specified above or the waiving of the inspection thereof shall not impact whether the materials and equipment conform to the Contract Documents. Contractor will not be relieved from furnishing materials meeting the requirements of the Contract Documents due to Agency's inspection or lack of inspection of the equipment or materials. Acceptance of any materials will be made only after materials are installed in the Project.
- 4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to accommodate Agency's testing efforts, including any travel required by Contractor's forces, shall be included in Contractor's bid and distributed in the Schedule of Pay Items related to the materials requiring testing. No additional compensation shall be made to the Contractor for this Work.

2.7 LOCAL CONDITIONS AND REQUIREMENTS

A. Access to Work and Haul Routes

- 1. General. All work on the rights-of-way necessary for access to the Site shall be performed by the Contractor.
- 2. Access, Damage, Restoration. The Contractor shall make his own investigation of the condition of available public or private roads and of clearances, restrictions, bridge-load limits, permit or bond requirements, and other limitations that affect or may affect transportation and ingress or egress at the Site. Claims for changes in Contract Price or Contract Times arising out of the unavailability of transportation facilities or limitations thereon shall not be considered by Agency.
- 3. The Contractor shall maintain and repair any damage arising out of Contractor's operations to all roads used during construction of the Project, and upon completion of all Work, but prior to final acceptance, the roads shall be restored to their original condition. Prior to using any road for access to the Site, the Contractor shall conduct a photograph and/or video survey of the roadway with a copy submitted to Agency's Representative.
- 4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.
- B. Power. Contractor shall provide at its own expense all necessary power required for operations under the contract. The Contractor shall provide and maintain in good order such modern equipment and installations as shall be adequate in the opinion of the Engineer to perform in a safe and satisfactory manner the Work required by the contract.

C. Construction Water.

- Construction water shall not be used for purposes other than those required to satisfactorily complete the contract.
- 2. South Mesa Water Company (SMWC) is the designated water service provider for the project area. The Contractor shall obtain all required construction water from SMWC. The Contractor is solely responsible for all costs associated with the acquisition, installation, testing, and relocation of the construction water meter, in full compliance with SMWC's standards, specifications, and requirements.

D. Operation of Existing Water Facilities

- The Contractor shall not operate any of the existing water systems, including pumps, motors, and hydrants, but shall contact the South Mesa Water Company two (2) working days in advance with a list and location of the water system facilities that will require operating, opening, stopping, or closure by the South Mesa Water Company.
- 2. At the option of the Engineer, the Contractor may be permitted to operate valves for the purpose of making connections to existing mains. The Contractor shall coordinate with the South Mesa Water Company to provide notification to existing customers regarding temporary loss of service.
- 3. Contractor shall submit a request to the South Mesa Water Company for any shutdown of existing water facilities.

E. Construction at Existing Utilities

- General. Where the Work to be performed crosses or otherwise interferes with water, sewer, gas, or oil pipelines; buried cable; or other public or private utilities, the Contractor shall perform construction in such a manner so that no damage will result to either public or private utilities. It shall be the responsibility of the Contractor to determine the actual locations of, and make accommodates to maintain, all utilities.
- 2. Permission, Notice and Liability. Before any utility is taken out of service, permission shall be obtained by the Contractor from the owner. The owner, any impacted resident or business owner and the Agency Representative will be advised of the nature and duration of the utility outage as well as the Contractor's plan for providing temporary utilities if required by the owner. The Contractor shall be liable for all damage which may result from its failure to maintain utilities during the progress of the Work, and the Contractor shall indemnify Agency as required by the Contract Documents from all claims arising out of or connected with damage to utilities encountered during construction; damages resulting from disruption of service; and injury to persons or damage to property resulting from the negligent, accidental, or intentional breaching of utilities.
- 3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in

Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

F. Traffic Control

- 1. General. Contractor shall abide by traffic control plans approved by the appropriate jurisdiction.
- 2. Protections. Roads subject to interference by the Work shall be kept open or suitable temporary passages through the Work shall be provided and maintained by the Contractor. The Contractor shall provide, erect, and maintain all necessary barricades, suitable and sufficient flasher lights, flag persons, danger signals, and signs, and shall take all necessary precautions for the protection of the Work and the safety of the public. No construction work along public or private roads may proceed until the Contractor has proper barricades, flasher lights, flag persons, signals, and signs in place at the construction site.
- Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

G. Cleaning Up

- 1. Contractor at all times shall keep premises free from debris such as waste, rubbish, and excess materials and equipment. Contractor shall not store debris under, in, or about the premises. Contractor shall also clean all asphalt and concrete areas to the degree necessary to remove oil, grease, fuel, or other stains caused by Contractor operations or equipment. The use of water, resulting in mud on streets, will not be permitted as substitute for sweeping or other methods. Dust control may require having a water truck onsite for the duration of the project, and/or use of temporary hoses and pipelines to convey water.
- 2. Contractor shall fully clean up the site at the completion of the Work. If the Contractor fails to immediately clean up at the completion of the Work, the Agency may do so and the cost of such clean up shall be charged back to the Contractor.

2.8 ENVIRONMENTAL QUALITY PROTECTION

A. Environmental Conditions

- 1. Contractor must comply with all applicable environmental laws, Project conditions, and constraints, including, but not limited to all mitigation actions identified in the Mitigation Monitoring and Reporting Program prepared by Albert A. Webb Associates (copy available upon request).
- Agency has considered these Environmental Conditions when determining the Contract Times and no additional time or compensation will be added to the Contract due to these Conditions.

B. Landscape and Vegetation Preservation

- General. The Contractor shall exercise care to preserve the natural landscape and vegetation, and shall conduct operations so as to prevent unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the Work.
- 2. Damage and Restoration. Movement of crews and equipment within the rights-ofway and over routes provided for access to the Work shall be performed in a manner to prevent damage to property. When no longer required, construction roads shall be restored to original contours.
- 3. Upon completion of the Work, and following removal of construction facilities and required cleanup, land used for construction purposes and not required for the completed installation shall be scarified and regraded, as required, so that all surfaces are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.
- 4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to complete this Work, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

C. Protected Species

- 1. General. If, in the performance of the Work, evidence of the possible occurrence of any Federally listed threatened or endangered plant or animal is discovered, the Contractor shall notify the Agency Representative immediately, giving the location and nature of the findings. Written confirmation of the evidence, location and nature of the findings shall be forwarded to Agency within 2 Days.
- 2. Procedures. The Contractor shall immediately cease all construction activities in the immediate area of the discovery to the extent necessary to protect the endangered plant or animal.
 - If directed by the Agency Representative, Contractor will refrain from working in the immediate area, suspend the Work in its entirety, or alter its performance to ensure full compliance with all applicable permits, laws and regulations. Any Agency directed changes to the Work as a result of a siting will be pursuant to the Contract Documents.
- 3. False Siting. Any costs or delays incurred by Agency or the Contractor due to unreasonable or false notification of an endangered plant or animal will be borne by the Contractor.
- 4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.
- D. Preservation of Historical and Archeological Resources

- 1. General. If, in the performance of the Work, Contractor should unearth cultural resources (for example, human remains, animal bones, stone tools, artifacts and/or midden deposits) through excavation, grading, watering or other means, the Contractor notify the Construction/Archeological Monitor and/or the Agency Representative immediately, giving the location and nature of the findings. Written confirmation of the evidence, location and nature of the findings shall be forwarded to the Construction/Archeological Monitor and/or Agency within 2 Days.
- 2. Procedures. The Contractor shall immediately cease all construction activities in the immediate area of the discovery to the extent necessary to protect the cultural resource.

If directed by the Agency Representative, Contractor will refrain from working in the immediate area, suspend the Work in its entirety, or re-sequence and/or alter its performance to ensure full compliance with all applicable permits, laws and Should the presence of cultural resources be confirmed, the regulations. Agency Representative Contractor will assist the Construction/Archeological Monitor in the preparation and implementation of a data recovery plan. The Contractor shall provide such cooperation and assistance as may be necessary to preserve the cultural resources for removal or other disposition. Any Agency directed changes to the Work as a result of the cultural resource will be pursuant to the Contract Documents.

- 3. Contractor's Liability. Should Contractor, without permission, injure, destroy, excavate, appropriate, or remove any cultural resource on or adjacent to the Site, it will be subject to disciplinary action, arrest and penalty under applicable law. The Contractor shall be principally responsible for all costs of mitigation and/or restoration of cultural resources related to the unauthorized actions identified above. Contractor shall be required to pay for unauthorized damage and mitigation costs to cultural resources (historical and archeological resources) as a result of unauthorized activities that damage cultural resources and shall indemnify Agency pursuant to the Contract Documents.
- 4. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

E. Dust and Pollution Control

- 1. Contractor shall provide all necessary material, equipment and labor to prevent and control the emission of dust and any other potential pollutant on site.
- 2. Contractor shall not discharge into the atmosphere from any source smoke, dust or other air contaminants in violation of the law, rules, and regulations of the governing agency.
- 3. Cost. Unless otherwise called for by the Contract Documents, the cost of all material, equipment, and labor required to comply with this paragraph, shall be

included in Contractor's bid and distributed in the Schedule of Pay Items. No additional compensation shall be made to the Contractor for this Work.

F. Management of Storm, Surface and Other Waters

- 1. Storm water, surface water, groundwater, and nuisance, or other waters may be encountered at various times during construction of the Project. Federal and State laws require the Agency and its contractors to manage such waters pursuant to the requirements of California State Water Resources Control Board Order Number WQ 2022-0057-DWQ, the Federal Clean Water Act, and the California Porter Cologne Water Quality Control Act. Contractor acknowledges that it has investigated the risk arising from such waters in conjunction with the Project, and assumes any and all risks and liabilities arising therefrom.
- 2. The Contractor shall perform all construction operations in such a manner as to comply, and ensure all subcontractors to comply, with all applicable Federal, State, and local laws, orders, and regulations concerning the control and abatement of water pollution; and all terms and conditions of any applicable permits issued for the Project. In the event there is a conflict between Federal, State, and local laws, regulations, and requirements, the most stringent shall apply.
- 3. Contractor violations. If noncompliance should occur, the Contractor shall report this to the Agency Representative immediately, with the specific information submitted in writing within 2 Days. Consistent violations of applicable Federal, State, or local laws, orders, regulations, or Water Quality Standards may result in Agency stopping all site activity until compliance is ensured. The Contractor shall not be entitled to any change in Contract Price or Contract Times, claim for damage, or additional compensation by reason of such a work stoppage. Corrective measures required to bring activities into compliance shall be at the Contractor's expense.
- 4. Compliance with Construction General Storm Water Permit. Contractor shall be required to comply with all aspects of the State Water Resources Control Board (State Board) Water Quality Order No. WQ 2022-0057-DWQ, National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity (Permit) for all projects that involve construction on or disturbance of one acre or more of land or which are part of a larger common area of development.
 - (a) Contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for the Project site based on the appropriate Risk Level requirements, and draft and coordinate submittal of all Permit related documents with Agency's Legally Responsible Person and/or Authorized Signatory as those terms are defined in the Permit. The Contractor shall submit the SWPPP to the Agency Representative for review not less than fifteen (15) Days prior to the start of on- site construction work. Agency will file the Notice of Intent and pay the filing fee.
 - (b) The SWPPP shall be developed by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP) as those terms are defined in the Permit and shall include industry standard requirements for water quality control including but not be limited to the following:

- (1) Sediment and erosion control measures to manage sediment and erosion including vegetative practices, structural control, silt fences, straw dikes, sediment controls or operator controls as appropriate. Storm water management measures shall be instituted as required, including velocity dissipaters, and solid waste controls shall address controls for building materials and offsite tracking of sediment.
- (2) Wastewater and storm water management controls to divert offsite surface flows around the Project site and to divert surface flows within the Project area away from areas of open earth or stockpiles of building and other materials. Wastewater from general construction activities, such as drain water collection, aggregate processing, concrete batching, drilling, grouting, or other construction operations, shall not enter flowing or dry watercourses without having met the authorized non-storm water discharge requirements listed in State Board Water Quality Order No. WQ 2022-0057-DWQ, Section III.C., including proper notification to the Regional Water Board.
- (3) Pollution prevention measures including methods of dewatering, unwatering, excavating, or stockpiling earth and rock materials which include prevention measures to control silting and erosion, and which will intercept and settle any runoff of sediment-laden waters.
- (4) Turbidity prevention measures for prevention of excess turbidity including, but are not restricted to, intercepting ditches, settling ponds, gravel filter entrapment dikes, flocculating processes, recirculation, combinations thereof, or other approved methods that are not harmful to aquatic life. All such wastewaters discharged into surface waters, shall contain the least concentration of settleable material possible, and shall meet all conditions of section 402, the National Pollutant Discharge Elimination System (NPDES) permit.
- (5) Overall construction site management measures to address changes at the Project site as the Project moves through different phases and changes that account for rainy and dry season management practices.
- (6) Pollution control measures and construction activity methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, or other pollutants or wastes, into streams, flowing or dry watercourses, lakes, wetlands, reservoirs, or underground water sources. Such pollutants and wastes include, but are not restricted to: refuse, garbage, cement, sanitary waste, industrial waste, hazardous materials, radioactive substances, oil and other petroleum products, aggregate processing, tailings, mineral salts, and thermal pollution.
- (7) Control measures for stockpiled or deposited materials prohibiting the stockpile or deposit of excavated materials, or other construction materials, near or on stream banks, lake shorelines, or other watercourse perimeters where they can be washed away by high water or storm runoff, or can, in any way, encroach upon the watercourse.
- (8) Develop and implement a Rain Event Action Plan (REAP), if required, that must be designed and implemented to protect all exposed portions of the site 48 hours prior to any likely precipitation event.

- (9) Monitoring, reporting and record keeping, as necessary to achieve compliance with applicable Permit requirements, including but not limited to annual reports and rain event reports.
- (c) Before any Permit related documents, including the SWPPP, rain event reports, or annual reports may be submitted to the State Board or implemented on the Project site, they must first be reviewed and approved by Agency.
- (d) Agency retains the right to procure and maintain coverage under the Permit for the Project site if the Contractor fails to draft a SWPPP or other Permit related document, or fails to proceed in a manner that is satisfactory to Agency. Agency reserves the right to implement its own SWPPP at the Project site, and hire additional contractors to maintain compliance. Whether Contractor has adequately maintained compliance with the Permit shall be Agency's sole determination. In the event that Contractor has failed or is unable to maintain compliance with the Permit, any costs or fines incurred by Agency in implementing a SWPPP, or otherwise maintaining compliance with the Construction General Permit shall be paid by the Contractor.
- (e) Failure to implement the SWPPP or otherwise comply with the Permit is a violation of federal and state law. Contractor hereby agrees to indemnify Agency as required by the Contract Documents for any noncompliance or alleged noncompliance with the Permit arising out of or in connection with the Project, except for liability resulting from the sole established negligence, willful misconduct or active negligence of Agency. Agency may seek damages from Contractor for delay in completing the Contract in accordance with the Contract Documents, caused by Contractor's failure to comply with the Permit.
- 5. In addition to compliance with the Permit, Contractor shall comply with the lawful requirements of any applicable municipality, district, drainage district, flood control district, and other local agencies regarding discharges of storm water, surface water, groundwater or other nuisance waters off of the Project site.
- 6. Oil storage tanks management.
 - (a) Storage tank placement. All oil or other petroleum product (hereinafter referred to collectively as oil) storage tanks shall be placed at least 20 feet from streams, flowing or dry watercourses, lakes, wetlands, reservoirs, and any other water source.
 - (b) Storage area dikes. Storage areas shall be diked at least 12 inches high or graded and sloped to permit safe containment of leaks and spills equal to the capacity of all tanks and/or containers located within each area, plus a sufficient amount of freeboard to contain the 25-year rainstorm.
 - (c) Diked area barriers. Diked areas shall have an impermeable barrier at least 10 mils thick. Areas used for refueling operations shall have an impermeable liner at least 10 mils thick buried under 2 to 4 inches of soil.
 - (d) Spill Prevention Control and Countermeasure Plan (SPCC). Where the location of a construction site is such that oil from an accidental spillage could reasonably be expected to enter into or upon the navigable waters of the

United States or adjoining shorelines, and the aggregate storage of oil at the site is over 1,320 gallons or a single container has a capacity in excess of 660 gallons, the Contractor shall prepare an SPCC Plan. The Contractor shall submit the SPCC Plan to the Engineer at least 30 days prior to delivery or storage of oil at the site. The Plan must have been reviewed and certified by a registered professional engineer in accordance with 40 C.F.R., part 112

- 7. Underground tank prohibition. The Contractor shall not use underground storage tanks.
- 8. Construction safety standards. The Contractor shall comply with the sanitation and potable water requirements of Section 7 of United States Bureau of Reclamation's publication "Reclamation Safety and Health Standards."
- 9. Other Permits.
 - (a) Other permits applicable to the Project are listed in the Special Conditions. The Contractor shall obtain all other necessary licenses and permits.
 - (b) Monitoring. The Contractor is required to conduct monitoring in order to meet the requirements of the permits, which may include sampling, testing and inspections.
 - (c) Recordkeeping. The Contractor shall retain all records and data required by the permits for the time specified in the contract.
- 10. Cost. Except as specified herein, the cost of complying with this section shall be included in the Schedule of Pay Items for work which necessitate the water pollution prevention measures required by this paragraph.

END OF GENERAL REQUIREMENTS

EXHIBIT "A" CHANGE ORDER FORM

San Gorgonio Pass Water Agency

1210 Beaumont Ave Beaumont, CA 92223

Page 1 of 2

Contract Change Order

Project:	Change Order No.:			
		Orig. Contract Amt.:	\$	Days
Contract No.:				
Contractor:		Prev. Appvd. Changes:	\$	Days
Owner:	San Gorgonio Pass Water Agency	This Change:	\$	Days
		Revised Contract Amt.:	\$	Days

This Change Order covers changes to the subject contract as described herein. The Contractor shall construct, furnish equipment and materials, and perform all work as necessary or required to complete the Change Order items for a lump sum price agreed upon between the Contractor and San Gorgonio Pass Water Agency, otherwise referred to as Owner.

Item No.	Description of Changes	Increase/ (Decrease) in Contract Amount	Contract Time Extension, Days
1			
2			
	Totals	\$	

This Contract Change Order consists of 2 pages and any exhibits attached to this Contract Change Order shall not be part of the
Contract Change Order unless specifically initialed by or on behalf of both the Contractor and the San Gorgonio Pass Water Agency.

Contract Change Order #_____

The amount of the contract will be increased by the sum of \$\textstyle and the contract time shall be extended by working days. The undersigned Contractor approves the foregoing Change Order # as to the changes, if any, in the contract price specified for each item including any and all supervision costs and other miscellaneous costs relating to the change in work, and as to the extension of time allowed, if any, for completion of the entire work on account of said Change Order #. The Contractor agrees to furnish all labor and materials and perform all other necessary work, inclusive of the directly or indirectly related to the approved time extension, required to complete the Change order items. This document will become a supplement of the contract and all provisions will apply hereto. It is understood that the Change Order shall be effective when approved by the Owner.

Contractor accepts the terms and conditions stated above as full and final settlement of any and all claims arising out of or related to the subject of this Change Order and acknowledges that the compensation (time and cost) set forth herein comprises the total compensation due for the work or change defined in the Change Order, including all impact on any unchanged work. By signing this Change Order, the Contractor acknowledges and agrees that the stipulated compensation includes payment for all Work contained in the Change Order, plus all payment for any acceleration or interruption of schedules, extended overhead costs, delay, and all impact or cumulative impact on all Work under this Contract. The signing of this Change Order acknowledges full mutual accord and satisfaction for the change and that the stated time and/or cost constitute the total equitable adjustment owed the Contractor as a result of the change. The Contractor hereby releases and agrees to waive all rights, without exception or reservation of any kind whatsoever, to file any further claim or request for equitable adjustment of any type, for any reasonably foreseeable cause that shall arise out of, or as a result of, this Change Order and/or its impact on the remainder of the Work under the Contract.

Accepte	ed:	
	(Signature) Contractor's Authorized Representative	Date
Recom	mended:	
	(Signature)	Date
Approv	ed:	
	(Signature) Agency Engineer	Date
Item No.	Justification for Change(s)	
1		
2		

This Contract Change Order consists of **2 pages** and any exhibits attached to this Contract Change Order shall not be part of the Contract Change Order unless specifically initialed by or on behalf of both the Contractor and the San Gorgonio Pass Water Agency.

Contract Change Order # Page 2 of 2

EXHIBIT "B"

FUNDING REQUIREMENTS

The County of Riverside and the San Gorgonio Pass Water Agency entered into that certain Funding Agreement for County Line Recharge Basin and Turnout Project, attached hereto. Contractor will comply with all relevant requirements included in the Funding Agreement.

Funds from the American Rescue Plan Act ("ARPA") and the Coronavirus State Fiscal Recovery Fund and/or the Coronavirus Local Fiscal Recovery Fund, together known as the Coronavirus State and Local Fiscal Recovery Funds ("CSLFRF") program, will be used to fund a portion of this Agreement. As applicable, Consultant shall comply with all federal requirements including, but not limited to, the following, all of which are expressly incorporated herein by reference:

- 1.1.1 Sections 602 and 603 of the Social Security Act as added by Section 9901 of the American Rescue Plan Act of 2021 (the "Act");
- 1.1.2 U.S. Department of the Treasury ("Treasury") Final Rule for the Act;
- 1.1.3 Treasury Compliance and Reporting Guidance for the Act;
- 1.1.4 2 C.F.R. Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, other than such provisions as the U.S. Department of the Treasury may determine are inapplicable to the CSLFRF program and subject to such exceptions as may be otherwise provided by the U.S. Department of the Treasury;
- 1.1.5 Treasury Coronavirus Local Fiscal Recovery Fund Award Terms and Conditions; and
- 1.1.6 Federal contract provisions attached hereto as Exhibit "**B**" and incorporated herein by reference.

Subcontracts, if any, shall contain a provision making them subject to all of the provisions stipulated in this Agreement. With respect to any conflict between such federal requirements and the terms of this Agreement and/or the provisions of state law and except as otherwise required under federal law or regulation, the more stringent requirement shall control.

EXHIBIT "B" – ATTACHMENT 1

FUNDING AGREEMENT FOR COUNTY LINE RECHARGE BASIN AND TURNOUT PROJECT BETWEEN COUNTY OF RIVERSIDE AND SAN GORGONIO PASS WATER AGENCY



EXHIBIT "B" - ATTACHMENT 2

FEDERAL CONTRACT PROVISIONS

- 1. REQUIRED CONTRACT PROVISIONS IN ACCORDANCE WITH APPENDIX II TO PART 200 CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.327)
- (a) <u>Appendix II to Part 200 (A); Appendix II to Part 200 (B): Remedies for Breach; Termination for Cause/Convenience</u>. The Contract Documents include remedies for breach and termination for cause and convenience.
- (b) <u>Appendix II to Part 200 (C) Equal Employment Opportunity:</u> If this Agreement meets the definition of a "federal assisted construction contract" in 41 CFR § 60-1.3, Consultant agrees as follows during the performance of this Agreement:
- (i) The Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Consultant will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (ii) The Consultant will, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (iii) The Consultant will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Consultant's legal duty to furnish information.
- (iv) The Consultant will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Consultant's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (v) The Consultant will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

- (vi) The Consultant will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (vii) In the event of the Consultant's noncompliance with the nondiscrimination clauses of this Agreement or with any of the said rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (viii) The Consultant will include the portion of the sentence immediately preceding paragraph (i) and the provisions of paragraphs (i) through (vii) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Consultant will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event the Consultant becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Consultant may request the United States to enter into such litigation to protect the interests of the United States.

The District further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, That if the District so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the Agreement.

The District agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of the Consultant and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The District further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the District agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: cancel, terminate, or suspend in whole or in part the grant (contract, loan, insurance, guarantee) for this

project; refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

(c) Appendix II to Part 200 (D) – Davis-Bacon Act:

- (i) When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. Sections 3141-3148) as supplemented by Department of Labor regulations (29 C.F.R. Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction").
- (ii) In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal contractor must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal Contractor must report all suspected or reported violations to the Federal awarding agency.

(d) Appendix II to Part 200 (D) - Copeland "Anti-Kickback" Act:

- (i) All prime construction contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. Section 874 and 40 U.S.C. Section 3145), as supplemented by Department of Labor regulations (29 C.F.R. Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States").
- (ii) The <u>Copeland "Anti-Kickback" Act</u> provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal contractor must report all suspected or reported violations to the Federal awarding agency.

(e) Appendix II to Part 200 (E) – Contract Work Hours and Safety Standards Act:

- (i) Overtime Requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (ii) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (ii) of this section the Consultant and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (ii) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (ii) of this section.

- (iii) Withholding for unpaid wages and liquidated damages. The District shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Consultant or subcontractor under any such contract or any other Federal contract with the Consultant, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the Consultant, such sums as may be determined to be necessary to satisfy any liabilities of Consultant or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (iii) of this section.
- (iv) Subcontracts. The Consultant or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (ii) through (v) of this Section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Consultant shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (ii) through (v) of this Section.
- (f) Appendix II to Part 200 (F) Rights to Inventions Made Under a Contract or Agreement: If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the Consultant wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the Consultant must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency..

(g) Appendix II to Part 200 (G) – Clean Air Act and Federal Water Pollution Control Act:

- (i) Pursuant to the Clean Air Act, (1) Consultant agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq., (2) Consultant agrees to report each violation to the District and understands and agrees that the District will, in turn, report each violation as required to assure notification to the Federal awarding agency and the appropriate Environmental Protection Agency Regional Office, and (3) Consultant agrees to include these requirements in each subcontract exceeding \$150,000.
- (ii) Pursuant to the Federal Water Pollution Control Act, (1) Consultant agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq., (2) Consultant agrees to report each violation to the District and understands and agrees that the District will, in turn, report each violation as required to assure notification to the Federal awarding agency and the appropriate Environmental Protection Agency Regional Office, and (3) Consultant agrees to include these requirements in each subcontract exceeding \$150,000.

(h) Appendix II to Part 200 (H) – Debarment and Suspension:

- (i) This Agreement is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such Consultant is required to verify that none of the Consultant, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disgualified (defined at 2 C.F.R. § 180.935).
- (ii) Consultant must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- (iii) This certification is a material representation of fact relied upon by District. If it is later determined that Consultant did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the District, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (iv) Consultant warrants that it is not debarred, suspended, or otherwise excluded from or ineligible for participation in any federal programs. Consultant also agrees to verify that all subcontractors performing work under this Agreement are not debarred, disqualified, or otherwise prohibited from participation in accordance with the requirements above. Consultant further agrees to notify the District in writing immediately if Consultant or its subcontractors are not in compliance during the term of this Agreement.
- (i) Appendix II to Part 200 (I) Byrd Anti-Lobbying Act: Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

(j) Appendix II to Part 200 (J) – §200.323 Procurement of Recovered Materials:

- (i) Consultant shall comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement.
- (ii) In the performance of this Agreement, the Consultant shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired: competitively within a timeframe providing for compliance with the contract performance schedule; meeting contract performance requirements; or at a reasonable price.
- (iii) Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

- (iv) The Consultant also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."
- (k) <u>Appendix II to Part 200 (K) §200.216 Prohibition on Certain Telecommunications</u> and Video Surveillance Services or Equipment:
- (i) Consultant shall not contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system funded under this Agreement. As described in Public Law 115–232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- (1) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- (2) Telecommunications or video surveillance services provided by such entities or using such equipment.
- (3) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.
 - (ii) See Public Law 115-232, section 889 for additional information.
 - (I) Appendix II to Part 200 (L) §200.322 Domestic Preferences for Procurement:
- (i) Consultant shall, to the greatest extent practicable, purchase, acquire, or use goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subcontracts.
 - (ii) For purposes of this section:
- (1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- (2) "Manufactured products" means items and construction materials composed in whole or in part of nonferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

2. CONTRACTING WITH SMALL AND MINORITY FIRMS, WOMEN'S BUSINESS ENTERPRISE AND LABOR SURPLUS AREA FIRMS (2 C.F.R. § 200.321)

- (a) Consultant shall be subject to 2 C.F.R. § 200.321 and will take affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible and will not be discriminated against on the grounds of race, color, religious creed, sex, or national origin in consideration for an award.
 - (b) Affirmative steps shall include:
- (i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- (iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;
- (iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises; and
- (v) Using the services/assistance of the Small Business Administration (SBA), and the Minority Business Development Agency (MBDA) of the Department of Commerce.
- (c) Consultant shall submit evidence of compliance with the foregoing affirmative steps when requested by the District.

3. COMPLIANCE WITH U.S. DEPARTMENT OF THE TREASURY CORONAVIRUS LOCAL FISCAL RECOVERY FUND AWARD TERMS AND CONDITIONS

- (a) <u>Maintenance of and Access to Records.</u> Consultant shall maintain records and financial documents sufficient to evidence compliance with section 603(c) of the Act, Treasury's regulations implementing that section, and guidance issued by Treasury regarding the foregoing. Consultant agrees to provide the District, Treasury Office of Inspector General and the Government Accountability Office, or any of their authorized representatives access to any books, documents, papers, and records (electronic an otherwise) of the Consultant which are directly pertinent to this Agreement for the purposes of conducting audits or other investigations. Records shall be maintained by Consultant for a period of five (5) years after completion of the Project.
- (b) <u>Compliance with Federal Regulations.</u> Consultant agrees to comply with the requirements of section 603 of the Act, regulations adopted by Treasury pursuant to section 603(f) of the Act, and guidance issued by Treasury regarding the foregoing. Consultant also agrees to comply with all other applicable federal statutes, regulations, and executive orders, including, without limitation, the following:
- (i) Universal Identifier and System for Award Management (SAM), 2 C.F.R. Part 25, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 25 is hereby incorporated by reference.

- (ii) Reporting Subaward and Executive Compensation Information, 2 C.F.R. Part 170, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 170 is hereby incorporated by reference.
- (iii) OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Non-procurement), 2 C.F.R. Part 180, including the requirement to include a term or condition in all lower tier covered transactions (contracts and subcontracts described in 2 C.F.R. Part 180, subpart B) that the award is subject to 2 C.F.R. Part 180 and Treasury's implementing regulation at 31 C.F.R. Part 19.
- (iv) Recipient Integrity and Performance Matters, pursuant to which the award term set forth in 2 C.F.R. Part 200, Appendix XII to Part 200 is hereby incorporated by reference.
- (v) Government-wide Requirements for Drug-Free Workplace, 31 C.F.R. Part 20.
 - (vi) New Restrictions on Lobbying, 31 C.F.R. Part 21.
- (vii) Uniform Relocation Assistance and Real Property Acquisitions Act of 1970 (42 U.S.C. §§ 4601-4655) and implementing regulations.
- (c) Compliance with Federal Statutes and Regulations Prohibiting Discrimination. Consultant agrees to comply with statutes and regulations prohibiting discrimination applicable to the CSLFRF program including, without limitation, the following:
- (i) Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.) and Treasury's implementing regulations at 31 C.F.R. Part 22, which prohibit discrimination on the basis of race, color, or national origin under programs or activities receiving federal financial assistance.
- (ii) The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability.
- (iii) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance.
- (iv) The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance.
- (v) Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.
- (d) <u>False Statements.</u> Consultant understands that making false statements or claims in connection with the CSLFRF program is a violation of federal law and may result in criminal, civil, or administrative sanctions, including fines, imprisonment, civil damages and penalties,

debarment from participating in federal awards or contracts, and/or any other remedy available by law.

(e) <u>Protections for Whistleblowers</u>.

- (i) In accordance with 41 U.S.C. § 4712, Consultant may not discharge, demote, or otherwise discriminate against an employee in reprisal for disclosing to any of the list of persons or entities provided below, information that the employee reasonably believes is evidence of gross mismanagement of a federal contract or grant, a gross waste of federal funds, an abuse of authority relating to a federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a federal contract (including the competition for or negotiation of a contract) or grant.
- (ii) The list of persons and entities referenced in the paragraph above includes the following:
- (1) A member of Congress or a representative of a committee of Congress;
 - (2) An Inspector General;
 - (3) The Government Accountability Office;
- (4) A Treasury employee responsible for contract or grant oversight or management;
- enforcement agency;

 An authorized official of the Department of Justice or other law
 - (6) A court or grand jury; or
- (7) A management official or other employee of Consultant, or a subcontractor who has the responsibility to investigate, discover, or address misconduct.
- (f) <u>Increasing Seat Belt Use in the United States.</u> Pursuant to Executive Order 13043, 62 FR 19217 (Apr. 18, 1997), Consultant is encouraged to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented or personally owned vehicles, and encourage its subcontractors to do the same
- (g) Reducing Text Messaging While Driving. Pursuant to Executive Order 13513, 74 FR 51225 (Oct. 6, 2009), Consultant should encourage its employees and subcontractors to adopt and enforce policies that ban text messaging while driving, and Consultant should establish workplace safety policies to decrease accidents caused by distracted drivers.
- (h) <u>Assurances of Compliance with Civil Rights Requirements.</u> The Civil Rights Restoration Act of 1987 provides that the provisions of this assurance apply to the Project, including, but not limited to, the following:
- (i) Consultant ensures its current and future compliance with Title VI of the Civil Rights Act of 1964, as amended, which prohibits exclusion from participation, denial of the benefits of, or subjection to discrimination under programs and activities receiving federal funds,

of any person in the United States on the ground of race, color, or national origin (42 U.S.C. § 2000d *et seq.*), as implemented by the Department of the Treasury Title VI regulations at 31 CFR Part 22 and other pertinent executive orders such as Executive Order 13166; directives; circulars; policies; memoranda and/or guidance documents.

- (ii) Consultant acknowledges that Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency (LEP)," seeks to improve access to federally assisted programs and activities for individuals who, because of national origin, are limited in their English proficiency. Consultant understands that the denial of access to persons to its programs, services and activities because of their limited proficiency in English is a form of national origin discrimination prohibited under Title VI of the Civil Rights Act of 1964. Accordingly, Consultant shall initiate reasonable steps, or comply with Treasury's directives, to ensure meaningful access to its programs, services and activities to LEP persons. Consultant understands and agrees that meaningful access may entail providing language assistance services, including oral interpretation and written translation where necessary to ensure effective communication in the Project.
- (iii) Consultant agrees to consider the need for language services for LEP persons during development of applicable budgets and when conducting programs, services and activities. As a resource, the Department of the Treasury has published its LEP guidance at 70 FR 6067. For more information on LEP, please visit http://www.lep.gov.
- (iv) Consultant acknowledges and agrees that compliance with this assurance constitutes a condition of continued receipt of federal financial assistance and is binding upon Consultant and Consultant's successors, transferees and assignees for the period in which such assistance is provided.
- (v) Consultant agrees to incorporate the following language in every contract or agreement subject to Title VI and its regulations between the Consultant and the Consultant's subcontractors, successors, transferees and assignees:

The subcontractor, successor, transferee and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by Department of the Treasury Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also extends protection to persons with "Limited English proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by Department of the Treasury Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement).

(vi) Consultant understands and agrees that if any real property or structure is provided or improved with the aid of federal financial assistance by the Department of the Treasury, this assurance obligates the Consultant, or in the case of a subsequent transfer, the transferee, for the period during which the real property or structure is used for a purpose for which the federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is provided, this assurance obligates the Consultant for the period during which it retains ownership or possession of the property.

- (vii) Consultant shall cooperate in any enforcement or compliance review activities by the Department of the Treasury of the aforementioned obligations. Enforcement may include investigation, arbitration, mediation, litigation, and monitoring of any settlement agreements that may result from these actions. Consultant shall comply with information requests, on-site compliance reviews, and reporting requirements.
- (viii) Consultant shall maintain a complaint log and inform the Department of the Treasury of any accusations of discrimination on the grounds of race, color, or national origin, and limited English proficiency covered by Title VI of the Civil Rights Act of 1964 and implementing regulations and provide, upon request, a list of all such reviews or proceedings based on the complaint, pending or completed, including outcome. Consultant must also inform the Department of the Treasury if Consultant has received no complaints under Title VI.
- (ix) Consultant must provide documentation of an administrative agency's or court's findings of non-compliance of Title VI and efforts to address the non-compliance, including any voluntary compliance or other agreements between the Consultant and the administrative agency that made the finding. If the Consultant settles a case or matter alleging such discrimination, Consultant must provide documentation of the settlement. If Consultant has not been the subject of any court or administrative agency finding of discrimination, please so state.
- (x) If Consultant makes sub-awards to other agencies or other entities, Consultant is responsible for assuring that sub-recipients also comply with Title VI and all of the applicable authorities covered in this assurance.

EXHIBIT "B" - ATTACHMENT 3

DAVIS BACON PROVISIONS

(a) <u>Davis-Bacon Provisions.</u> Contractor shall comply with 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (labor standards originally enacted as the Davis- Bacon Act, the Contract Work Hours and Safety Standards Act, the Copeland Anti-Kickback Act), which are incorporated into the Contract by this reference. This includes, but is not limited to, the following provisions:

(i) Minimum wages.

All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d)(i)(4) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in section (d)(iv). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (d)(i)(2) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2)

a. The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the Contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

i. The work to be performed by the classification requested is not performed by a classification in the wage determination; and

ii. The classification is utilized in the area by the construction industry; and

- iii. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- b. If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- c. In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- d. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (d)(i)(2) (b) or (c) of this section, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.
- (3) Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
- (ii) Withholding. The District shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the Contract, the District may, after written notice to the

Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(iii) Payrolls and basic records.

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2)

The Contractor shall submit weekly for each week in which any Contract work is performed a copy of all payrolls to the Bureau of Reclamation if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Bureau of Reclamation. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the Contract, but if the agency is not such a party, the Contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant. sponsor, or owner).

- b. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:
- i. That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- ii. That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- iii. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.
- c. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.
- d. The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
- (3) The Contractor or subcontractor shall make the records required under paragraph (c)(iii)(1) of this section available for inspection, copying, or transcription by authorized representatives of the District or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(iv) Apprentices and trainees -

(1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft

classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (3) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
- (v) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this Contract.

- (vi) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the District may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
- (vii) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the Contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
- (viii) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this Contract.
- (ix) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the District, the U.S. Department of Labor, or the employees or their representatives.

(x) Certification of eligibility.

- (1) By entering into this Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (2) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act

- (i) Overtime Requirements. No contractor or subcontractor contracting for any part of the Contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (ii) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (i) of this Section the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (i) of this Section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (i) of this Section.

(iii) Withholding for unpaid wages and liquidated damages. The District shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the Contractor, such sums as may be determined to be necessary to satisfy any liabilities of Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (ii) of this section.

Subcontracts. Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (ii) through (iv) of this Section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (i) through (iv) of this Section.



EXHIBIT B – ATTACHMENT 4 DAVIS BACON RATES

[ATTACH WAGE RATE DETERMINATION FOR THE PROJECT LOCATION]



"General Decision Number: CA20250025 06/06/2025

Superseded General Decision Number: CA20240025

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and

Highway

County: Riverside County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:

generally applies to the contract.

The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.

. Executive Order 14026

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:

- Executive Order 13658
 generally applies to the
 contract.
 The contractor must pay
- . The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	01/10/2025
2	01/24/2025
3	02/07/2025
4	02/21/2025
5	02/28/2025
6	03/28/2025
7	06/06/2025

* ASBE0005-002 09/01/2024

Rates Fringes

Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all

0/9/25, 1.UZ PIVI		
types of mechanical systems) Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls,	\$ 56.32	26.52
floors, ceilings and curtain		
walls)	\$ 39.94	20.65
ACDEODOE 004 07/04/2022		
ASBE0005-004 07/04/2022		
	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not) BOIL0092-003 01/01/2024	\$ 23.52	13.37
	Rates	Fringes
BOILERMAKER	\$ 51.98	42.11
* BRCA0004-011 05/01/2024		
	Rates	Fringes
BRICKLAYER; MARBLE SETTER	\$ 45.53	20.29
*The wage scale for prevailing Blythe, China lake, Death Vall Palms, Needles and 1-15 corrid State Line) will be Three Doll standard San Bernardino/Rivers	ley, For <mark>t I</mark> r dor (Bar <mark>sto</mark> w lars (\$3 <mark>.00</mark>)	win, Twenty-Nine to the Nevada ab <mark>ov</mark> e the
BRCA0018-004 06/01/2024		
BNCA0018-004 00/01/2024		
	Rates	Fringes
MARBLE FINISHER		15.36
TILE FINISHER		13.77
TILE LAYER	» 51.82 	19.32
BRCA0018-010 09/01/2024		
	Rates	Fringes
TERRAZZO FINISHER	\$ 42 11	14.67
TERRAZZO WORKER/SETTER		15.26
CARP0213-001 01/01/2024		
	Rates	Fringes
CARPENTER (1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical		
<pre>installer</pre>		22.88 22.88
(Commercial)	\$ 48.99	22.88
<pre>(4) Pneumatic Nailer, Power Stapler</pre>	\$ 51.85	16.28
(5) Sawfiler	\$ 51.69	16.28
(6) Scaffold Builder	\$ 40.77	22.38
(7) Table Power Saw Operator	\$ 51.70	16.28
FOOTNOTE: Work of forming in		

 $\ensuremath{\mathsf{FOOTNOTE}}\xspace$. Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal

lagging is used in conjunction with steel H-Beams driven or placed in pre- drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

CARP0213-002 07/01/2021

	Rates	Fringes
Diver		
(1) Wet	\$ 834.40	16.28
(2) Standby	\$ 445.84	16.28
(3) Tender	\$ 437.84	16.28
(4) Assistant Tender	\$ 413.84	16.28
Amounts in ""Rates' column ar	e ner dav	

Amounts in ""Rates' column are per day

CARP0213-004 01/01/2024

	Rates	Fringes	
Drywall DRYWALL INSTALLER/LATHER STOCKER/SCRAPPER	•	22.88 9.97	
CARP0721-001 07/01/2021			
	Rates	Fringes	
Modular Furniture Installer	\$ 21.85	7.15	

ELEC0440-001 12/30/2024

	Races	TTINGES
ELECTRICIAN INSIDE ELECTRICIAN INTELLIGENT TRANSPORTA		3%+28.48
SYSTEMS	11011	
Electrician		3%+23.18
Technician	\$ 27.75	3%+23.18

Rates

Fringes

ZONE PAY: Zone A: Free travel zone for all contractors performing work in Zone A.
Zone B:Any work performed in Zone (B) shall add \$12.00 per hour to the current wage scale. Zone (B) shall be the area from the eastern perimeter of Zone (A) to a line which runs north and south begininng at Little Morongo Canyon (San Bernardino/Riverside County Line), Southeast along the Coachella Tunnels, Colorado River Aqueduct and Mecca Tunnels to Pinkham Wash then South to Box Canyon Road, then southwest along Box Canyon Road to Highway 195 west onto 195 south to Highway 86 to Riverside/Imperial County Line.

ELEC1245-001 01/01/2025

		Rates	Fringes
INE	CONSTRUCTION (1) Lineman; Cable splicer. (2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons	.\$ 70.16	24.71
	<pre>and below), overhead & underground distribution line equipment)</pre>	.\$ 40.76	22.26 21.76 18.79
НΟΙ	TDAYS: New Year's Day M I	·	ial Day

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

ELEV0018-001 01/01/2025

Rates Fringes

ELEVATOR MECHANIC............\$ 69.43 38.435+a+b

FOOTNOTE:

a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

FNGT0012-004	A0 /A1	/2021

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman	\$ 64.10	38.75
(2) Dredge dozer	\$ 58.13	38.75
(3) Deckmate(4) Winch operator (stern	\$ 58.02	38.75
winch on dredge) (5) Fireman-Oiler, Deckhand, Bargeman,	\$ 57.47	38.75
Leveehand	\$ 56.93	38.75
(6) Barge Mate	\$ 57.54	38.75

ENGI0012-024 07/01/2023

		Rates	Fringes
OPERATOR:	Dougn Fautament		
(All Other	Power Equipment		
GROUP	1	\$ 53.90	32.80
GROUP	2		32.80
GROUP	3		32.80
GROUP	4	· ·	32.80
GROUP	6		32.80
GROUP	8		32.80
GROUP	10	\$ 56.91	32.80
GROUP	12		32.80
GROUP	13	\$ 57.18	32.80
GROUP	14	\$ 57.21	32.80
GROUP	15	\$ 57.29	32.80
GROUP	16	\$ 57.41	32.80
GROUP	17	\$ 57.58	32.80
GROUP	18	\$ 57.68	32.80
GROUP	19	\$ 57.79	32.80
GROUP	20	\$ 57.91	32.80
GROUP	21	\$ 58.08	32.80
GROUP	22	\$ 58.18	32.80
GROUP	23	\$ 58.29	32.80
	24		32.80
GROUP	25	\$ 58.58	32.80
OPERATOR:	Power Equipment		
•	iledriving &		
Hoisting)			
GROUP	1		32.80
GROUP	2		32.80
GROUP	3		32.80
GROUP	4		32.80
GROUP	5	•	32.80
GROUP	6	•	32.80
GROUP	7		32.80 32.80
GROUP GROUP	8	•	32.80
GROUP	9		32.80
GROUP	11		32.80
GROUP	12	•	32.80
GROUP	13		32.80
OPERATOR:	Power Equipment		32.00
(Tunnel Work)			
GROUP	1	\$ 55.75	32.80
GROUP	2		32.80
GROUP	3	•	32.80
GROUP	4	•	32.80
GROUP	5		32.80
GROUP	6	•	32.80
GROUP	7		32.80

PREMIUM PAY:

\$10.00 per hour shall be paid on all Power Equipment Operator

work on the followng Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator);Coil Tubing Rig Operator, Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable);Direct Push Operator (Geoprobe or similar types) Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45 maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter(concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1

drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar types; Cable Bundling Machine Operator (excluding handheld); Cable Trenching Machine Operator (Spider Plow or similar types) Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; RCM Cementing Unit Operator, Rail/Switch Grinder Operator (Harsco or similar types) Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self- propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bendng machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

- GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)
- GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)
- GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)
- GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem Quad 9 and similar type)
- GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units single engine, up to and including 25 yds. struck)
- GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds.and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units multiple engine, up to and including 25 yds. struck)
- GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)
- GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)
- GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)
- GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)
- GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Spyder Excavator Operator, with all attachments

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.);

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc); Tower crane operator and tower gantry

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM.

Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point whch is the SW corner of Section 34.T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

IRON0433-006 01/01/2025

	Rates	Fringes
IRONWORKER		
Fence Erector	\$ 45.78	26.51
Ornamental, Reinforcing		
and Structural	\$ 50.70	35.15

PREMIUM PAY:

\$9.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland,

Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LADO2200 00F 07/01/2024

LAB00300-005 07/01/2024

Rates

Fringes

Asbestos Removal Laborer..... \$ 43.88

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LAB00345-001 07/01/2024

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1	\$ 53.48	22.77
GROUP 2	\$ 52.53	22.77
GROUP 3	\$ 48.99	22.77

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0"" above base level and which work must be performed in whole or in part more than 75'-0"" above base level, that work performed above the 75'-0"" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LABO1184-001 07/01/2024

1	Rates	Fringes
Laborers: (HORIZONTAL		
DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer\$	45.34	20.06
(2) Vehicle Operator/Hauler.\$	45.51	20.06
(3) Horizontal Directional		
Drill Operator\$	47.36	20.06
(4) Electronic Tracking		
Locator\$	49.36	20.06
Laborers: (STRIPING/SLURRY		
SEAL)		
GROUP 1\$	46.65	23.17
GROUP 2\$	47.95	23.17
GROUP 3\$	49.96	23.17
GROUP 4\$	51.70	23.17

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic

delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

* LAB01184-002 07/01/2024

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1	\$ 50.73	24.70
GROUP 2	\$ 51.05	24.70
GROUP 3	\$ 51.51	24.70
GROUP 4	\$ 52.20	24.70
LABORER		
GROUP 1	\$ 43.88	25.15
GROUP 2	\$ 44.43	25.15
GROUP 3	\$ 44.98	25.15
GROUP 4	\$ 46.53	25.15
GROUP 5	\$ 46.88	25.15

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials (""applying"" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and

similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LADO1104 004 07/01/2024

LAB01184-004 07/01/2024

Rates Fringes

Brick Tender......\$ 41.53 22.54

LAB01414-001 08/03/2022

Rates Fringes

LABORER
PLASTER CLEAN-UP LABORER....\$ 38.92 23.32
PLASTER TENDER.....\$ 41.47 23.32

Work on a swing stage scaffold: \$1.00 per hour additional.

PAIN0036-001 07/01/2023

Rates Fringes

Painters: (Including Lead Abatement) (1) Repaint (excludes San Diego County).....\$ 29.59 17.12 (2) All Other Work.....\$ 38.52 18.64 REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities. PAIN0036-008 09/01/2024 Rates Fringes DRYWALL FINISHER/TAPER..... \$ 49.33 26.82 PAIN0036-015 01/01/2025 Rates Fringes GLAZIER.....\$ 53.05 30.64 FOOTNOTE: Additional \$1.25 per hour for work in a condor, from the third (3rd) floor and up Additional \$1.25 per hour for work on the outside of the building from a swing stage or any suspended contrivance, from the ground up PLAS0200-009 08/03/2022 Rates Fringes PLASTERER.....\$ 47.37 19.64 PLAS0500-002 07/01/2023 Rates Fringes CEMENT MASON/CONCRETE FINISHER...\$ 44.00 27.11 PLUM0016-001 09/01/2024 Rates Fringes PLUMBER/PIPEFITTER Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of 25.63 floor space..... \$ 57.67 Work ONLY on strip malls, light commercial, tenant improvement and remodel 23.96 work.....\$ 44.24 All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....\$ 59.48 PLUM0345-001 09/01/2023 Rates Fringes PLUMBER Landscape/Irrigation Fitter.\$ 40.20 25.90 Sewer & Storm Drain Work....\$ 44.29 23.28 ROOF0036-002 08/01/2024 Rates Fringes

ROOFER.....\$ 49.43 20.58

FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour ""pitch premium"" pay.

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SFCA0669-002 01/01/2025

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines) and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

Rates Fringes SHEET METAL WORKER (1) Commercial - New Construction and Remodel 30.43 work.....\$ 59.31 (2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechtural sheet metal work, excluding A-C, heating, ventilating systems for human comfort...\$ 56.95 30.04

TEAM0011-002 07/01/2024

		ı	Rates	Fringes
TRUCK DRIVE	ER			
GROUP	1	\$	39.59	34.34
GROUP	2	\$	39.74	34.34
GROUP	3	\$	39.87	34.34
GROUP	4	\$	40.06	34.34
GROUP	5	\$	40.09	34.34
GROUP	6	\$	40.12	34.34
GROUP	7	\$	40.37	34.34
GROUP	8	\$	40.62	34.34
GROUP	9	\$	40.82	34.34
GROUP	10	\$	41.12	34.34
GROUP	11	\$	41.62	34.34
GROUP	12	\$	42.05	34.34

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB, El Centro Naval Facility, Fort Irwin, Marine Corps Logistics Base at Nebo & Yermo, Mountain Warfare Training Center, Bridgeport, Point Arguello, Point Conception, Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire

person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the $\ensuremath{\text{EO}}$ is available at

https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the

example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

- 1) Has there been an initial decision in the matter? This can be:
 - a) a survey underlying a wage determination
 - b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter $\,$
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys Wage and Hour Division U.S. Department of Labor

200 Constitution Avenue, N.W. Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations Wage and Hour Division U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board U.S. Department of Labor 200 Constitution Avenue, N.W. Washington, DC 20210.

END OF GENERAL DECISION"

SPECIAL PROVISIONS

FOR THE SAN GORGONIO PASS WATER AGENCY COUNTY LINE RECHARGE BASIN PROJECT

1. Preconstruction Job Meeting

Contractor and his major subcontractors shall attend a preconstruction job meeting at Owner's office as soon after award as Owner considers necessary. Contractor shall submit a proposed construction schedule at said meeting for subsequent approval. Contractor shall also submit all other required data at the same meeting, or alternatively, a submittal schedule for approval.

2. Permits, Certificates, Laws, and Ordinances

Except for the specific below referenced permits, Contractor shall, at his expense, procure any additional permits, certificates, and/or licenses required of them by law for the execution of the work, including but not limited to the preparation of all required Traffic Control Plans (TCPs) and all permits required for storm water pollution control and waste water discharge (SWPPP). The Contractor shall comply with all federal, state, and local laws, ordinance, and/or rules and regulations relating to the performance of said work, including Cal/OSHA.

The following agencies and private property owners have jurisdiction within the project work site and rights-of-way. At least one copy of all permits shall be maintained at the job site at all times. Contractor shall comply with all requirements of said agencies and private property owners:

A. City of Calimesa

Contractor is advised that Calimesa generally has right-of-way jurisdiction for the roads within and adjacent to the Project. Calimesa has generally adopted all RCTD standards with regard to road and traffic matters. Upon award of the project, the Contractor shall submit application to Calimesa for an encroachment permit(s) and formally secure said encroachment permit(s) (on behalf of the Owner) by fully preparing and submitting its proposed TCPs (signed and sealed by a licensed Civil/Traffic Engineer if so required) for review and approval, and perform his work in accordance with same and the issued permit. Owner will supply sufficient copies of the drawings as needed to accommodate the Contractor's application process with Calimesa.

B. San Gorgonio Pass Water Agency (Owner)

The Owner maintains exclusive jurisdiction over the private property under its ownership. All work conducted within the boundaries of the Owner's property falls under the Owner's sole authority and shall be permitted pursuant to the Notice to Proceed of this contract. Accordingly, all work conducted within the boundaries of the Owner's property is not subject to the permitting, inspection, or other administrative requirements of the City of Calimesa. Notwithstanding this exemption from permitting, all work shall be performed in full compliance with applicable standards and requirements as set forth in Title 15 of the Calimesa Municipal Code, including but not limited to Chapter 15.05, which adopts and amends the 2022 Edition of the California Building Code. This includes adherence to best practices related to grading, erosion control, and site safety. Exemption from permit requirements shall not be construed as authorization to perform work in any manner that is inconsistent with the provisions of the Calimesa Municipal Code or any other applicable laws or regulations of competent jurisdiction.

C. Riverside County Flood Control and Conservation District

Contractor is advised that the Riverside County Flood Control and Water Conservation District (RCFC&WCD) has jurisdiction over certain drainage facilities or easements within the Project area. The Owner has obtained the necessary encroachment permit from RCFC&WCD (Permit No. 5-0-00160-4240) in advance of construction. All work performed within RCFC&WCD jurisdiction shall be in accordance with the conditions and requirements set forth in the approved permit.

D. Private Property Owners

The limits of the street right-of-way are shown on the Construction Drawings. Contractor shall perform all work within said right-of-way and shall not encroach beyond said limits (onto private property) unless specifically authorized to do so. Where existing fencing or other facilities to be removed are located on abutting private properties, Contractor shall obtain authorization directly from property owners and provide said authorization in writing to Owner prior to performing work said private properties.

3. Site Inspection

Contractor acknowledges by submission of his/her bid that he has satisfied himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonable ascertainable from an inspection of the site, including any exploratory work deemed necessary by the Contractor. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to the Owner. Working Hours

Contractor shall perform all Contract work between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday, unless otherwise restricted by the permit requirements of the governmental agencies. Depending on level of disturbance or noise to be created during certain construction activities, work hours (or the types of operations performed during certain hours) may dictate adjustment by Owner. Work at other times and work on holidays will be permitted only with the prior approval or direction of the Owner's representative.

4. Traffic Control Plans (TCPs)

Contractor is advised that Calimesa may require detailed TCPs to be prepared and submitted for review and approval (as previously described in the Permits section above) prior to execution of any work within their respective rights-of-way. Unless otherwise required and at a minimum (where other jurisdictions may not apply), Contractor shall provide traffic control in accordance with the State of California, Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD) latest edition. As a minimum, Contractor shall maintain one lane of traffic open at all times. During construction, Contractor shall provide access for property owners, emergency vehicles, mail delivery, routine utility operations, and refuse collection. Traffic control shall include, but not be limited to, all signs, detours, barricades, arrow boards, electronic message boards, delineators, and flagmen. Traffic control requirements may be modified by Owner and other jurisdictions as conditions warrant. Contractor shall modify traffic control as required at no additional cost.

5. Construction Water

Contractor is advised that South Mesa Water Company (SMWC) serves domestic water to the area. Contractor shall make application, and pay any associated fees, for fire hydrant meter and construction water as part of the Contract Work. Information related to the Construction Meter Application may be found on the SMWC web site https://southmesawater.com.

6. Construction Staking

Contractor shall be responsible to provide professionally qualified and licensed personnel to perform surveys to establish reference points for the construction which in Owner and Engineer's judgment are

necessary to enable Contractor to proceed with the Work. Contractor and its professionally qualified and licensed personnel shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner and Engineer. Contractor shall report to its professionally qualified and licensed personnel and the Owner whenever any reference point or property monument is lost or destroyed or whenever any reference point requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments. Contractor's professionally qualified and licensed personnel performing surveys to establish reference points for the construction as indicated in 4.05A, shall comply with M.U.T.C.D. Standard 6H-16 – Typical Application, and the Caltrans Survey Manual, Chapter 12, for Construction Surveys.

The Contractor shall provide one (1) set of construction control surveys for the improvements shown on the plans per the industry standard as determined by the Owner and Engineer. Any additional staking requested by the Contractor above the industry standard as stated above shall be set at an additional cost to be borne by the Contractor. The Contractor shall notify its professionally qualified and licensed personnel, in writing, forty-eight (48) hours in advance for reference survey, or construction survey needs. In the event that controls established by the Contractor's professionally qualified and licensed personnel are destroyed or compounded as a result of the Contractor operations, replacement costs shall be borne by the Contractor.

7. Survey Monuments and Benchmarks

Contractor shall not disturb existing survey monuments or benchmarks. If monuments must be removed, said monuments shall be referenced and reset pursuant to the Business and Professions Code, Sections 8700 to 8805 (Land Surveyor's Act).

8. Geotechnical Consultant

Prior to commencement of work, the owner will employ a Geotechnical Consultant of its choosing. The responsibilities both the Geotechnical Consultant and the Contractor are described in the General Earthwork and Grading Section of the Technical Specifications. It is the Contractor's responsibility to coordinate with the Geotechnical Consultant to ensure all of the provisions of the General Earthwork and Grading Section of the Technical

9. Specifications and these Special Provisions are met. Compaction Testing

Contractor shall notify Owner and Geotechnical Consultant when compaction testing is required as specified in the General Earthwork and Grading Section of The Technical Specifications and these Special Provisions. Owner will pay for all passing tests; Contractor shall pay for all failing tests. Contractor shall assist Geotechnical Consultant in taking all compaction tests as part of its as-bid price. Contractor shall furnish all equipment (including shoring), labor, and materials needed for such assistance. Compaction testing shall be completed and accepted by Owner prior to hydrostatic/leakage testing of the pipelines per Section 20 of these Special Provisions. Relative compaction requirements shall be in accordance with the General Earthwork and Grading Section of the Technical Specifications and these Special Provisions.

10. Contract Payment

Payment for all bid items shall be for the amount set forth in the bidding sheets and shall be for constructed items based on actual quantity constructed multiplied by the specific unit price or, if Lump sum, calculated unit price (bid item amount divided by quantity provided in bid item description, as applicable). The amounts bid by Contractor shall include all materials, equipment, and labor unless separate bid items are included in bid sheets.

The Contractor shall verify, to his own satisfaction, the quantities of work shown on the bidding sheets. If he finds the quantities to be in error, he shall immediately notify the Owner so that if changes in quantities are found necessary, an addendum may be issued to all bidders.

11. Payment Requests

Contractor shall submit all partial payment requests and final payment request to Owner with copies to Owner's engineer. Payment requests shall be submitted by the fifteenth day of the month following the month in which the work was performed. On approval by the Owner and the Owner's engineer, partial payments will be made by the fifteenth day of the month following the month in which request for payment is received.

All payment requests shall show all bid items for the Contract Work and the amounts bid. In addition, said requests shall show percentages of completion of each bid item and the amounts thereof, said amounts being totaled to arrive at the value of the completed work. The net partial payment amount shall equal 95% of said total.

12. California Regional Water Quality Control Board

A. Discharge of Hydrostatic Test Water and Potable Water

In discharging hydrostatic test water, pipeline flushing water, and any potable water, the Contractor shall comply with all requirements of the California Regional Water Quality Control Board, as identified in Article 22 of the General Conditions.

B. Discharge of Groundwater or Trench Dewatering

Contractor is advised that no groundwater was encountered during the geotechnical investigation but water may be encountered or introduced into the trenches by construction activities during the course of the project. Contractor shall dewater trench as required for proper installation of the pipeline and protection of the workers at no additional cost to Owner in accordance with Section D herein.

Prior to discharging water on private property, Contractor shall obtain written permission of the owner(s) approving such use.

C. Other Discharges

For all other wastewater discharge situations, the Contractor shall, at his sole expense, obtain a discharge permit from the California Regional Water Quality Control Board. A copy of said discharge permit shall be provided to the Owner. Contractor shall comply with conditions therein and perform the monitoring required.

D. Miscellaneous Discharge Requirements

Contractor shall not allow any discharges from the construction site which may have an adverse effect on receiving waters of the United States. The wastewater discharge shall not contain a concentration of total residual chlorine of more than 0.1 mg/l. The wastewater discharge shall not contain oils, greases, waxes, or other potentially hazardous materials. The wastewater discharge shall not cause erosion or sedimentation in the receiving water. Contractor shall provide written notification to the agency/municipality that owns, operates, and maintains the storm drain conveyance system a minimum of one (1) week prior to the start of any discharge into a storm drain conveyance system.

13. Storage of Materials and Equipment

Unless Contractor elects to make its own accommodations, Owner will allow contractor to use its property located northwesterly of the project site. Contractor will be responsible for its own fencing and/or security at both sites, and returning the sites to pre-use conditions.

Contractor shall not store materials or equipment on private or public property without written permission from the affected property owner(s) approving such use. Said written permission shall be submitted to the Owner prior to the Contractor moving materials or equipment onto site.

All Contractor's equipment shall be removed from the public right-of-way and placed in the Contractor's construction yard at the end of each work day.

14. Notifications (exclusive of Permit requirements)

Contractor shall notify local residents and any commercial establishments of impending work. Printed notices shall be provided to all residents and commercial establishments in the vicinity of the work at least seven days in advance of construction. Vicinity for subject project shall be defined as approximately 500 feet in any direction from boundary of construction.

Said notices shall first be approved by Owner and shall contain a general description of the work, dates work will be performed, descriptions of areas where travel and parking will be restricted (if any), and names of streets which may be closed to through traffic or where traffic may be restricted. Notice shall also contain reference to Owner's website @ http://www.sgpwa.com/ and Contractor contact information.

If Owner receives complaints from individuals affected by the project, Contractor shall take immediate action to correct the situation as directed by the Owner. If Contractor receives complaints directly, he shall report same immediately to Owner. Thereafter he shall take immediate action to correct the situation as directed by Owner.

15. Earthwork, Grading, and Excavation

All earthwork, grading, backfill and seepage protection shall be completed in accordance with the General Earthwork and Grading Section of the Technical Specifications and Preliminary Geotechnical Investigation (prepared by LOR Geotechnical, Inc., Project Numbers 33109.1 and 33109.14) and under the supervision of the Geotechnical Consultant, and as specifically revised or amended below.

The proposed concrete structures, such as inlet and outlet structures, boxes, and aprons shall be considered structural areas and subject to the criteria in the Preparation of Foundation section of the Preliminary Geotechnical Investigation.

The proposed drivable Class II aggregate base surfaces surrounding the basin shall be subject to the criteria in the Exterior Flatwork section of the Preliminary Geotechnical Investigation.

16. Drainage Pipe Bedding, Backfill, and Seepage Protection

A. Seepage Cutoff Collars

Reinforced-concrete, seepage-cutoff collars are specified on the project plans along the storm drain pipe to prevent seepage along the bedding and backfill materials. The collar design and locations shall be reviewed and may be adjusted by the Geotechnical Consultant based on actual soil conditions encountered during construction and observed in the trench excavations.

B. Reinforced Concrete Drainage Pipe (RCP) and HDPE Pipe Bedding

Provided adequate control of seepage is provided, the remainder of the pipe shall be bedded with impermeable materials, such as compacted native soils, one-sack slurry, fine-grained bedding material. Coarse-grained bedding material shall not be used. The bedding may be jetted in areas below the springline of the pipe, but should otherwise be mechanically compacted. However, care shall be taken to limit flooding of the areas between concrete cut-off collars. A sump pump to remove water from jetting may be required. The contractor should submit a sample of the planned bedding material to the Project Engineer and Geotechnical Consultant prior to import to the site.

C. Reconstruction of Berms over RCP/HDPE

The portions of berms that will need to be reconstructed after installation of the reinforced concrete pipes/HDPE pipes within berms shall be backfilled in a manner that will limit the potential for groundwater seepage within the fill materials. The areas below the design high water level shall be backfilled with selective fine-grained soil. The sides of the excavations shall be provided with adequate benches as backfill progresses.

17. Geological Conditions at Work Site

The project site geologic conditions are detailed in the Preliminary Geotechnical Investigation for Project No. 33109.1 prepared by LOR Geotechnical Group, Inc., dated September 23, 2014.

The report is not intended to be exhaustive nor conclusive but as advisory only. All soil boring data and sieve analysis results, field and laboratory test data, and compaction test data applies only at the locations of the test area(s). Owner does not guarantee the accuracy or completeness of the information contained in the report. Contractor shall interpret any data contained in the report and conduct additional subsurface exploration at his expense and to his satisfaction. If Contractor uses the information contained in the reports in preparing his bid, Contractor must assume all risks resulting from conditions differing from those described therein.

18. Miscellaneous Materials

SGPWA does not have its own Standard Drawings for construction of water facilities, so select standards from surrounding agencies have been selected as a basis-for-design and construction. Any material or specification references made on the Standard Drawings shall also reference back to the respective agency's standards. Unless otherwise specified, any materials and testing procedures shall be performed in accordance with South Mesa Water Company (SMWC) Standards for Construction of Water Facilities, a copy of which is available on its website https://southmesawater.com/wp-content/uploads/STANDARD-SPECIFICATIONS-FOR-MATERIALS-AND-CONSTRUCTION.pdf

19. Underground Utilities – Identification, Protection, and Coordination

The Owner has reviewed all known records and available data regarding underground utilities in the project vicinity. Utilities shown on the Drawings are based on record documents, design plans, and standard industry practices; however, their accuracy and completeness are not guaranteed.

Contractor's Responsibility for Subsurface Investigations

The Contractor is fully responsible for identifying the true location, depth, material type, condition, size, and operational status (active or abandoned) of all subsurface facilities that may interfere with or be impacted by the work. Prior to trenching or crossing any such facilities, the Contractor shall conduct appropriate exploratory investigations and provide a Utility Investigation Report to the Engineer. This report must be submitted no later than three weeks in advance, or 1,300 linear feet ahead of the planned crossing—whichever results in more lead time. The Contractor shall not proceed with work in these areas without written acknowledgment from the Engineer. Delays resulting from failure to identify or report subsurface conditions shall not entitle the Contractor to additional time or compensation.

Utility Notification and Marking

At least 48 hours before commencing any excavation, Contractor shall request Dig Alert (by dialing 811) and non-member companies or utilities to mark or otherwise indicate the location(s)

of their subsurface facilities including, but not limited to, structures including vaults, main conductors or conduits, and service connections. For further information, visit the Dig Alert web site at http://www.digalert.org.

The Contractor shall coordinate directly with utility owners to confirm the operational status of each facility and to determine any specific protection, support, or clearance requirements needed during construction.

Protection of Active Underground Utilities

Underground utilities that are in service and do not directly conflict with the proposed improvements shall be protected in place and kept operational unless otherwise noted in the Contract Documents. Where utilities cross or run parallel to the pipeline trench, the Contractor shall provide temporary support and protection using methods approved by the owner of the affected utility. The Contractor is solely responsible for ensuring the integrity and uninterrupted service of all active facilities and shall bear all costs associated with repair or damage caused by construction operations.

Treatment of Abandoned Subsurface Facilities

If a subsurface facility is determined to be abandoned, the Contractor shall verify this status with the utility owner before proceeding. Once confirmed, abandoned facilities may be cut and removed. Both exposed ends shall be securely sealed with a minimum eight-inch-thick plug of concrete or brick and mortar. All removed materials shall be disposed of as unsuitable material.

Encountering Unidentified or Inaccurately Located Facilities

Trench excavations shall be performed in advance of pipeline installations such that unforeseen conflicts will be identified a minimum 100 feet prior to crossing. If a previously unidentified or inaccurately located subsurface facility is encountered and could be reasonably determined to conflict with the work, the Contractor shall determine the limits and extent of the facility and provide appropriate information to the Engineer. If a facility is determined to conflict with the design, the Engineer will issue a Field Order directing a deviation from the design.

Only the Engineer is authorized to issue design modifications or Field Orders that affect the approved design plans. Instructions from other parties—including inspectors, agency staff, or the Owner's Representative—shall not be treated as authorization for any deviation from the approved design.

20. Environmental Mitigation Measures

SGPWA has prepared a CEQA Initial Study (IS) and adopted a Mitigated Negative Declaration (MND) for the project. A copy of the IS/MND is on file and available for Contractor review at the SGPWA office. Prior to commencement of work, SGPWA will employ a Biologist, Archaeologist, and Paleontologist of its choosing. The Contractor is responsible for abiding by the project mitigation measures listed below.

Major mitigation measures include:

MM BIO-1: Nesting Bird Survey. A preconstruction survey for nesting birds shall be
conducted no more than 72 hours prior to commencement of project activities, including project
staging. The survey shall be conducted by a qualified biologist with prior experience conducting

nesting bird surveys for construction projects. The study area should include the affected area and suitable habitat within a 500-foot buffer, or a buffer size determined by the qualified biologist based on level of proposed disturbance and access. Results of the survey shall be provided to SGPWA. If no active nests are found, no additional measures are required. If active nests are found, then the biologist will map the location and document the species and nesting stage for SGPWA. A no-work buffer will be established around the active nest as determined by the qualified biologist and based on the species sensitivity to disturbance and the type and duration of the disturbance. No construction activities shall occur within the no-work buffer until the biologist has determined the nest is no longer active.

- MM CR-1: Monitoring and Treatment Plan. Prior to the pre-grade/kickoff meeting, the San Gorgonio Pass Water Agency shall retain a qualified project archaeologist that meets the Secretary of the Interior Standards. A Monitoring and Treatment Plan that is reflective of the project mitigation measures ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the Project archaeologist and submitted to the San Gorgonio Pass Water Agency for dissemination to the Consulting Tribes (Morongo Band of Mission Indians (MBMI), and Yuhaayiatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians)). Once all parties review and approve the plan, it shall be adopted by San Gorgonio Pass Water Agency – the plan must be adopted prior to the start of ground disturbing activities for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan. This Plan shall allow for monitors to be present that represent the Consulting Tribes for the remainder of the project construction, should the Tribe(s) elect to place a monitor on-site. The final report(s) created as a part of the project (e.g., monitoring and treatment plan, isolate records, site records, survey reports, testing reports, etc.) shall be submitted to the San Gorgonio Pass Water Agency and the Consulting Tribes for review and comment. After approval of all parties, the final reports are to be submitted to the Eastern Information Center, and the Consulting Tribes.
- MM CR-2: Archaeological Monitoring. Due to the heightened cultural sensitivity of the undisturbed native soil in the proposed project area, the Project archaeologist or designated archaeological monitor with at least 3 years of regional experience in archaeology that is retained by San Gorgonio Pass Water Agency to conduct a Cultural Resource Sensitivity Training at the pre-grade/kick-off meeting. The purpose of the training is to explain and coordinate the requirements of the monitoring plan (see MM CR-1). The archaeologist shall also be present for all ground disturbing activities that occur within the proposed project area of undisturbed native soil (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage.
- MM CR-3: Inadvertent Discovery of Human Remains. If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity

(within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted immediately pursuant to State Health and Safety Code Section 7050.5 and that code enforced for the duration of the project. No photographs are to be taken by anyone other than the coroner, except with written approval by the Consulting Tribes. The area shall be protected; project personnel/observers will be restricted. The County Coroner has 48 hours to make his/her determination pursuant to State Health and Safety Code Section 7050.5. If the County Coroner contacts the Native American Heritage Commission pursuant to Health and Safety Code section 7050.5(c), then the procedures in Public Resources Code (PRC) Section 5097.98 for the discovery of human remains shall be implemented.

- MM PALEO-1: Paleontological Resource Impact Mitigation Program (PRIMP). Construction activities that extend below the depth of artificial fill and below road pavement may impact significant paleontological resources throughout the Project area. Therefore, prior to the issuance of grading permits and consistent with Riverside County General Plan policies (i.e., Open Space Element Policy 19.6), a Paleontological Resource Impact Mitigation Program (PRIMP) shall be prepared by a qualified professional paleontologist as defined by mitigation paleontology industry standards (Murphey et al., 2019) and/or the Society of Vertebrate Paleontology (SVP, 2010). The PRIMP will include a Worker's Environmental Awareness Program training prepared prior to the start of Project-related ground disturbance and presented in person to all field personnel to describe the types of paleontological resources that may be found and the procedures to follow if any are encountered; the PRIMP will indicate where construction monitoring should occur and the frequency of required monitoring (e.g., full-time, spot-checks, etc.); the PRIMP will also provide details about fossil collection, analysis, and preparation for permanent curation at an approved repository; and lastly, the PRIMP will describe the different reporting standards to be used, such as monitoring with negative findings versus monitoring resulting in fossil discoveries.
- MM NOISE-1: Proper Mufflers. During all Project-related construction, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturer's standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.
- MM TCR-1: Treatment of Cultural Resources During Project Implementation. San Gorgonio Pass Water Agency shall enter into a Tribal Monitoring Agreement with the Morongo Band of Mission Indians (MBMI) prior to the start of ground disturbance activities. The agreement shall include MBMI attendance at the Cultural Resource Sensitivity Training to occur at the pre-grade/kick-off meeting.

If a pre-contact cultural resource (i.e., those that predate Native American contact with Europeans) is discovered during project construction, then ground-disturbing activities shall be suspended for a distance of 60 feet around the resource(s), and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The Project Archaeologist that is retained by San Gorgonio Pass Water Agency per MM CR-1 will evaluate the resource. Representatives from the Consulting Tribes (Morongo Band of Mission Indians [MBMI] and Yuhaaviatam of San Manuel Nation [YSMN]), the Project Archaeologist, and the San Gorgonio Pass Water Agency

shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the resource's archaeological significance, its potential as a Tribal Cultural Resource (TCR), and avoidance (or other appropriate treatment) of the discovered resource. Removal of any cultural resource(s) shall be conducted with the presence of Tribal monitor(s) representing the Consulting Tribes (unless a Consulting Tribe opts otherwise). All plans for analysis shall be reviewed and approved by the San Gorgonio Pass Water Agency and the Consulting Tribes prior to implementation, and all removed material shall be temporarily curated on-site.

It is the preference of MBMI that significant cultural resources are fully avoided and if full avoidance is not feasible, then preservation in-place. It is the preference of YSMN that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by the Consulting Tribes and the San Gorgonio Pass Water Agency, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloguing and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to San Gorgonio Pass Water Agency, California Historical Resource Information System (CHRIS) Center, and the Consulting Tribes. All reburials are subject to a reburial agreement that shall be developed between the San Gorgonio Pass Water Agency and the Consulting Tribes outlining the determined reburial process/location and shall include measures and provisions to protect the reburial area from any future impacts.

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the San Gorgonio Pass Water Agency shall relinquish all ownership and rights to this material and confer with the Consulting Tribes to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines and Federal Curation Standards (CFR 79.1). A curation agreement with an appropriately qualified repository shall be developed between the San Gorgonio Pass Water Agency and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Project developer/applicant to pay for those fees.

All draft records and reports containing the significance and treatment findings and data recovery results shall be prepared by the Project Archaeologist and submitted to San Gorgonio Pass Water Agency and the Consulting Tribes for their review and comment. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Center, the San Gorgonio Pass Water Agency, and the Consulting Tribes.

21. Site Cleanliness and Public Visibility

The Contractor shall maintain a clean, orderly, and professional appearance of the worksite at all times. The following requirements shall apply in all areas visible to the public:

- **Concurrent Disposal**: When practicable, broken asphalt, spoils, and other construction debris shall be removed from the site and properly disposed of at the time of their generation.
- **Stockpiling**: When temporary stockpiling is necessary, materials shall be neatly contained and managed to minimize visual impact and dust generation. Stockpiled materials shall be removed or properly disposed of no less than once per week.
- **Daily Cleanup**: All loose debris, trash, and construction waste shall be collected and either removed from the site or placed in covered trash bins at the end of each workday. Trash bins shall be maintained in a clean and serviceable condition and emptied regularly to prevent overflow.
- Screened Construction Fencing Onsite Work: For work occurring on the Owner's private property (onsite), the Contractor shall furnish and maintain screened construction fencing for the duration of onsite activities, in areas visible to the public. Screened fencing shall be provided at the Contractor's sole expense and shall meet the standards required by the City of Calimesa, where applicable.

The Contractor shall ensure that all work areas, both onsite and offsite, do not create a public nuisance or safety hazard, and shall implement reasonable measures to minimize visual, dust, and noise impacts to the surrounding community.

22. Polyvinyl Chloride (PVC) Pipeline Reference Standards

AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 60 In.

AWWA C605 - Underground Installation of PVC Pressure Pipe and Fittings for Water

AWWA C219 - Bolted, Sleeve-Type Couplings for Plain-End Pipe

AWWA C110 - Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In.

AWWA C153 - Ductile-Iron Compact Fittings, 3 In. Through 64 In.

AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

AWWA M23 - Manual of Water Supply Practices – PVC Pipe Design and Installation

ASTM D1784 - Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated PVC Compounds

ASTM D3139 - Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals

ASTM F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe

ASTM D1598 - Time-to-Failure of Plastic Pipe Under Constant Internal Pressure

ASTM D1599 - Short-Term Hydraulic Failure Pressure of Plastic Pipe

NSF/ANSI 14 - Plastics Piping System Components and Related Materials

NSF/ANSI 61 - Drinking Water System Components – Health Effects

23. Ductile Iron Pipe (DIP) Reference Standards

AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast, for Water

AWWA C110 - Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In.

AWWA C153 - Ductile-Iron Compact Fittings, 3 In. Through 64 In.

AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

AWWA C104 - Cement-Mortar Lining of Ductile-Iron Pipe and Fittings for Water

AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances

AWWA C219 - Bolted, Sleeve-Type Couplings for Plain-End Pipe

AWWA M41 - Manual of Water Supply Practices – Ductile Iron Pipe and Fittings

ASTM A536 - Standard Specification for Ductile Iron Castings

ASTM AWWA/ANSI C104/A21.4 - Cement-Mortar Lining of Ductile-Iron Pipe and Fittings for

NSF/ANSI 61 - Drinking Water System Components – Health Effects

24. Appurtenance & Miscellaneous Reference Standards

AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service

AWWA C504 - Rubber-Seated Butterfly Valves

AWWA C550 - Protective Interior Coatings for Valves and Hydrants

AWWA C512 - Air-Release, Air/Vacuum, and Combination Valves for Waterworks Service

AWWA C651 - Disinfecting Water Mains

AWWA C652 - Disinfection of Water-Storage Facilities (if applicable to vaults)

AWWA C620 - Tap Bursting or Inserting Connections to Water Mains

AWWA M6 - Manual of Water Supply Practices – Water Meters

25. Concrete, Utility Vaults, and Trench Restoration

ASTM C478 - Precast Reinforced Concrete Manhole Sections

ASTM C857 - Minimum Structural Design Loading for Underground Precast Concrete Utility

Structures

ASTM C858 - Underground Precast Concrete Utility Structures

ASTM C150 - Standard Specification for Portland Cement

ASTM D698 - Test Methods for Laboratory Compaction Characteristics of Soil

ASTM D1557 - Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort

ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates

ASTM D6103 - Flow Consistency of Controlled Low Strength Material (CLSM)

ASTM D4832 - Preparation, Testing, and Reporting of Controlled Low Strength Material (CLSM) Test Cylinders

ITEMS OF WORK – PAYMENT FOR ITEMS

The following bid items are included in the Bid Schedule for providing a method of payment:

General Items (applicable to Entire Project)

Bid Item No. 101 – Insurances, Licenses, and Permits (Entire Project)

101.01 Measurement

This item will be measured on a lump sum (LS) basis. No separate measurement will be made.

101.02 Payment

Payment at the contract lump sum price shall include full compensation for obtaining, maintaining, and providing all insurances, licenses, certifications, and permits required to perform the Work in accordance with the Contract Documents and applicable laws. This includes, but is not limited to:

- General liability, workers' compensation, automobile, and any specialty insurance required by the Contract.
- Business and contractor licenses required for all project phases and trades.
- Permits from city, county, state, and/or federal agencies for lawful performance of all Work and associated plans.
- Environmental compliance permits (e.g., from the California State Water Resources Control Board or local environmental agencies).

All costs for filing, renewals, fees, taxes, and coordination are considered incidental. No separate payment will be made.

Bid Item No. 102 – Encroachment Permit(s) and Related Inspection Fees (Allowance)

102.01 Measurement

This item will be measured on a lump sum (LS) allowance basis. No separate measurement will be made for individual permit or inspection fee transactions.

102.02 Payment

Payment under this item shall be made on a reimbursement basis, not to exceed the allowance amount stated in the Bid Schedule. This allowance is intended to reimburse the Contractor for actual costs incurred for:

- Encroachment permit fees required by the local jurisdiction.
- Inspection fees directly related to the issuance and administration of such encroachment permits.

Reimbursement will be made only for actual documented costs submitted with supporting receipts or agency invoices. No markup for overhead, profit, or administrative costs shall be allowed under this item. Any unused portion of the allowance shall be retained by the Owner.

Bid Item No. 103 – Prepare and Maintain Critical Path Method and Project Schedule (Entire Project)

103.01 Measurement

This item will be measured on a lump sum (LS) basis. No separate measurement will be made for

schedule submissions, updates, or coordination meetings.

103.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, materials, equipment, software, and coordination necessary to prepare, update, and maintain the Critical Path Method schedule for the entire project, including all associated plans. This includes, but is not limited to:

- Development and submission of the initial Critical Path Method baseline schedule covering all project components (e.g., grading, street improvements, waterline extension, associated trades).
- Weekly updates to reflect actual progress and forecast remaining work.
- Preparation and distribution of a two-week lookahead schedule at the start of each work week.
- Participation in weekly progress meetings with the San Gorgonio Pass Water Agency, City/County inspectors, and other stakeholders.
- Incorporation of feedback or schedule adjustments as directed by the Engineer or Owner's Representative.
- Submission of printed and digital schedule documents as required.

All revisions, resubmittals, and administrative or coordination costs are incidental. No additional payment will be made.

Bid Item No. 104 – Traffic Control (Entire Project)

104.01 Measurement

This item will be measured on a lump sum (LS) basis. No separate measurement will be made for individual phases, devices, or temporary installations.

104.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, materials, equipment, and services required to plan, implement, maintain, and remove traffic control measures for the entire project, in accordance with approved traffic control plans and all applicable local, state, and federal standards. This includes, but is not limited to:

- Preparation and submittal of traffic control plans by a qualified professional for review and approval by the Agency and affected jurisdictions.
- Coordination with the Engineer, local agencies, emergency service providers, and all project contractors and trades.
- Furnishing, installing, operating, and maintaining signs, barricades, cones, flaggers, detours, message boards, and other traffic control devices.
- Providing temporary pedestrian and bicycle access as required by local agencies and safety regulations.
- Ongoing maintenance and adjustment of traffic control measures to suit field conditions and project progress.
- Timely removal of all traffic control measures upon completion of work or as directed by the Engineer.

All costs for planning, notifications, permits, equipment, personnel, and other incidentals are included in this item. No additional compensation will be made unless specifically authorized in writing by the Engineer.

Bid Item No. 105 – Erosion Control and NPDES (Entire Project)

105.01 Measurement

This item will be measured on a lump sum (LS) basis. No separate measurement will be made for erosion control devices, inspections, or reporting.

105.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, materials, equipment, permits, and documentation required to comply with the Construction General Permit (CGP), National Pollutant Discharge Elimination System (NPDES), and Riverside Flood Control NPDES requirements for the entire project and all associated plans. This includes, but is not limited to:

- Preparation, submittal, and implementation of a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the CGP, including updates and revisions. An onsite erosion control plan is included for grading, but the Contractor is responsible for preparing additional plans as required for other scopes (e.g., street improvements, waterline extensions, offsite work).
- Compliance with all conditions of the Riverside Flood Control encroachment permit, including additional erosion control measures or documentation as required.
- Installation, inspection, maintenance, and removal of temporary Best Management Practices (BMPs), including silt fences, fiber rolls, inlet protection, stabilized entrances, and other erosion or sediment controls.
- Sampling, monitoring, and reporting per CGP requirements and as directed by the Engineer.
- Training of personnel in stormwater compliance and BMP maintenance across all phases of the project.
- Coordination with the State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCB), Riverside Flood Control, and other regulatory agencies.

The Contractor is fully responsible for erosion control compliance throughout the project, including any offsite areas. All costs for documentation, field adjustments, SWPPP revisions, BMP maintenance or reinstallation due to weather or site conditions are included in this item. No additional payment will be made.

Bid Item No. 106 – Environmental Mitigation Monitoring and Reporting Program (MMRP) Compliance

106.01 Measurement

This item will be measured on a lump sum (LS) basis. The lump sum includes full compensation for all Contractor coordination, support, and compliance activities required under the approved MMRP and CEOA documentation.

106.02 Payment

Payment at the contract lump sum price includes full compensation for all responsibilities associated with facilitating, supporting, and complying with applicable mitigation measures during construction. While certain portions of MMRP implementation (e.g., monitoring or reporting) may be managed separately by the Agency, the Contractor is responsible for compliance related to their scope of work. This includes, but is not limited to:

- Providing access and coordination for monitors, tribal representatives, and agency personnel.
- Suspending work when directed due to discoveries or noncompliance.
- Implementing avoidance or minimization measures as directed.
- Attending pre-construction training or briefings.
- Following mitigation-related instructions or protocols during construction.

The Contractor shall comply with the following mitigation measures as applicable to their work: MM BIO-1, MM CR-1, MM CR-2, MM CR-3, MM TCR-1, MM PALEO-1, and MM NOISE-1. Details

for each measure are provided in the project's Contract Documents and approved MMRP.

No additional payment will be made for delays, remobilization, or other costs arising from noncompliance. All obligations under this item are included in the lump sum price.

Precise Grading & Erosion Control Plan

Bid Item No. 201 – Mobilization

201.01 Measurement

This item will be measured on a lump sum (LS) basis. No separate measurement will be made for partial mobilization activities.

201.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, equipment, materials, and services necessary to initiate construction activities and prepare the site in accordance with the Precise Grading Plan. This includes, but is not limited to:

- Transportation of personnel, equipment, and materials to and from the project site.
- Establishment of staging areas, laydown yards, and access routes specific to grading operations.
- Installation of temporary facilities, including field offices, utilities, fencing, storage, and sanitation.
- Delivery of initial materials, supplies, and equipment required to begin grading.
- Completion of preconstruction submittals, including safety plans, stormwater documents, environmental compliance, and schedule coordination related to grading.
- Coordination with utility companies, agencies, and stakeholders to initiate field work.
- Demobilization upon completion of grading, including removal of temporary facilities and restoration of non-permanent work areas, unless covered by another bid item.

No additional payment will be made for remobilization due to project phasing, delays, or rework unless specifically authorized in writing by the Engineer.

Bid Item No. 202 – Clear & Grub, Demolition, and Site Preparation

202.01 Measurement

This item will be measured on a lump sum (LS) basis. No separate measurement will be made for individual components or phases of this work.

202.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, equipment, materials, and incidentals necessary to clear, grub, demolish, and prepare the site for subsequent construction, in accordance with the Contract Documents. This includes, but is not limited to:

- Removal and legal disposal of trees, brush, vegetation, and other organic material.
- Stripping of topsoil and debris as required.
- Demolition and removal of existing structures, foundations, pavements, fencing, irrigation systems, and other site improvements as shown or directed by the Engineer.
- Grading and minor earthwork to establish a clean and stable working surface.
- Coordination with utility agencies for the disconnection, protection, or removal of utility lines.
- Removal and off-site disposal of subsurface obstructions (e.g., root balls, irrigation piping, agricultural infrastructure) encountered during excavation, whether shown on the Contract

Drawings or not.

No additional payment will be made for unforeseen underground debris or obstructions unless specifically excluded or directed in writing by the Engineer.

Bid Item No. 203 – Over-excavation

203.01 Measurement

Measurement will be made on a cubic yard (CY) basis, calculated as the volume of excavation performed below the design subgrade as specified in the geotechnical report or as directed by the Engineer.

203.02 Payment

Payment at the contract unit price per cubic yard (CY) includes full compensation for all labor, equipment, materials, and incidentals necessary to perform over-excavation operations, including but not limited to:

- Excavation below design subgrade to remove unsuitable or unstable material.
- Coordination with the geotechnical engineer for verification of removal limits.
- Stockpiling or disposal of removed materials.
- Backfilling with approved structural fill and compaction as required.

Over-excavation must be performed only in designated areas or where approved in writing by the Engineer. No additional compensation will be made for over-excavation performed without prior approval.

Bid Item No. 204 – Cut

204.01 Measurement

Measurement will be made on a cubic yard (CY) basis, determined by the actual in-place volume of material excavated to achieve design subgrade elevations, exclusive of overexcavation zones.

204.02 Payment

Payment at the contract unit price per cubic yard (CY) includes full compensation for all labor, equipment, materials, and incidentals necessary to perform cut operations, including but not limited to:

- Excavation of existing on-site materials to subgrade elevations shown on the grading plans.
- Hauling, stockpiling, and temporary storage of cut material for potential reuse.
- Trimming and shaping of basin and subgrade surfaces to specified tolerances.
- Maintenance of cut slopes and excavation faces during construction.

No additional payment will be made for variations in cut volume due to site conditions unless changes are directed by the Engineer.

Bid Item No. 205 - Structural Fill

205.01 Measurement

Measurement will be made on a cubic yard (CY) basis, determined by the volume of imported or on-site material placed and compacted in over-excavated or otherwise designated structural fill areas.

205.02 Payment

Payment at the contract unit price per cubic yard (CY) includes full compensation for all labor, equipment, materials, and incidentals necessary to perform fill operations, including but not limited to:

- Placement of approved fill material within over-excavated or structurally designated areas.
- Moisture conditioning, spreading in lifts, and compaction to geotechnical specifications.
- Verification testing and coordination with the geotechnical engineer.
- Material handling, transport, and final shaping of fill to subgrade tolerances.

All structural fill must conform to the material and compaction requirements of the geotechnical report. Fill placed outside specified areas will not be eligible for payment under this item.

Bid Item No. 206 – Export

206.01 Measurement

Measurement will be made on a cubic yard (CY) basis, calculated from the quantity of surplus material excavated from the site and not reused or otherwise incorporated into the work.

206.02 Payment

Payment at the contract unit price per cubic yard (CY) includes full compensation for all labor, materials, equipment, and incidentals necessary to perform export operations, including but not limited to:

- Development and submission of a haul plan for the transportation of excess material, including routes, equipment, and coordination with local authorities.
- Creation and approval of offsite grading or stockpile plans for the disposal of excavated materials, including handling, grading, and final stockpile elevations.
- Identification and securing of approved disposal sites, ensuring that the site meets all local regulations and that the site owner/operator has granted permission for disposal, with approval from the Engineer prior to disposal.
- Obtaining all necessary permits and approvals for haul routes and disposal sites, including environmental, traffic, and zoning permits.
- Transporting, unloading, and disposing of excess or unsuitable soil offsite, including dust control and waste management measures, along with cleanup of haul routes.
- Coordination with local authorities to ensure compliance with traffic control, road use, and haul
 route conditions, and obtaining permits for any necessary road closures or special hauling
 conditions.
- Providing required documentation, including disposal site approvals, permits, and haul route permits, as well as regular progress reports to the Engineer detailing disposal quantities and locations.

No additional payment will be made for increased export volumes unless directed by the Engineer or resulting from design changes. The contractor shall be responsible for any increased costs resulting from delays or changes to haul routes or disposal sites.

Bid Item No. 207 – Rough Grade

207.01 Measurement

Measurement will be made on a square foot (SF) basis, based on the area of the site prepared to the specified rough grade elevation as shown in the contract documents, excluding any areas requiring final grade.

207.02 Payment

Payment at the contract unit price per square foot (SF) includes full compensation for all labor, materials, equipment, and incidentals necessary to perform rough grading, including but not limited to:

- Excavation and redistribution of material to prepare the site for final grade.
- Shaping and leveling of subgrade surfaces for future pavement, landscaping, and drainage.
- Adjustment of material placement and compaction to meet subgrade tolerances as specified.
- Removal and disposal of excess material outside the rough grading limits.
- Installation of temporary erosion control measures if required during grading operations.

No additional payment will be made for unforeseen increases in material quantities or adjustments to the rough grade area unless directed by the Engineer.

Bid Item No. 208 - Final Grade

208.01 Measurement

Measurement will be made on a square foot (SF) basis, based on the area of the site prepared to the specified final grade elevation as shown in the contract documents, excluding areas already completed under rough grading.

208.02 Payment

Payment at the contract unit price per square foot (SF) includes full compensation for all labor, materials, equipment, and incidentals necessary to perform final grading, including but not limited to:

- Shaping of areas to finished elevations for landscaping, planting, or paving.
- Spreading of topsoil, soil amendments, or other materials as required to achieve the final grade surface.
- Final compaction of the graded areas to meet project specifications for density and moisture
- Adjustment of grades for utilities, structures, and other site improvements as necessary.
- Protection of finished grade from erosion or damage until final acceptance.

No additional payment will be made for unforeseen changes in material volumes or adjustments to grade elevations unless directed by the Engineer.

Bid Item No. 209 and 210 – Recharge Basin Ripping – Bottom and Side Slopes 209.01 Measurement

Measurement will be made on a square foot (SF) basis, calculated from the horizontal surface area of the basin bottom and side slopes designated for ripping, or as directed by the Engineer.

209.02 Payment

Payment at the contract unit price per square foot (SF) includes full compensation for all labor, materials, equipment, and incidentals necessary to perform deep ripping operations, including but not limited to:

- Ripping the basin bottom to a depth of 3 feet and basin side slopes to a depth of 1.5 feet using appropriate ripping equipment (e.g., dozer-mounted rippers or similar heavy-duty subsoiling implements).
- Performing the ripping in multiple passes and/or in cross-directions as necessary to achieve the required depth and spacing.
- Coordination with grading operations to ensure ripping occurs after final subgrade preparation

- and prior to hydroseeding or other surface treatments.
- Managing equipment access and operations on slopes while ensuring slope stability and safety.
- Dust control and surface stabilization measures following ripping, as necessary, to minimize erosion or sediment transport.
- Cleanup of the site following ripping, including removal of any large clods or debris dislodged during the ripping operation.

Ripped areas that are compacted by subsequent construction activities shall be re-ripped at the Contractor's expense. No additional payment will be made for multiple ripping passes required to achieve the specified depth. All work shall be subject to inspection and approval by the Engineer.

Bid Item No. 211 and 212 – Construct 3" Asphalt Concrete Pavement Over 6" Class II Aggregate Base

211.01 Measurement

Measurement will be made on a per ton basis for the actual quantity of Asphalt Concrete (AC) placed and accepted, determined by the weight of asphalt delivered to the project site in accordance with the approved mix design.

211.02 Payment

Payment at the contract unit price per ton includes full compensation for all labor, materials, equipment, and incidentals necessary to complete the asphalt pavement installation, including but not limited to:

- Subgrade preparation, including removal of unsuitable material, regrading, and compaction of native soils to a minimum of 95% relative compaction as specified in the geotechnical report.
- Placement of 6 inches of Class II Aggregate Base, including furnishing, hauling, spreading, and compacting to required density.
- Placement of 3 inches of Asphalt Concrete (AC), including furnishing, hauling, placement, and compaction in accordance with specifications, ensuring proper lifts and required density and thickness.
- Compaction and finishing of the asphalt surface to meet specified tolerances for smoothness and density.
- Quality control testing and inspections, including required sampling, testing, and documentation of materials, compaction, and finished product per project specifications.
- Adjustments to material quantities as directed by the Engineer due to unforeseen site conditions.

No separate payment will be made for adjustments in material quantities unless directed by the Engineer. All work must comply with project specifications for materials and quality control procedures.

Bid Item No. 213 – Construct 6" Class II Aggregate Base on Native Soils

213.01 Measurement

Measurement will be made on a per ton basis for the actual quantity of Class II Aggregate Base installed, as determined by the final in-place volume.

213.02 Payment

Payment at the contract unit price per ton includes full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including but not limited to:

• Subgrade preparation, including removal of unsuitable or deleterious material, regrading, and compaction of native soils to a minimum of 95% relative compaction as specified in the geotechnical report.

- Furnishing, hauling, and placing 6 inches of Class II Aggregate Base in the required thickness and compacted to meet density specifications.
- Compaction of the Class II Aggregate Base to achieve the required 95% relative compaction in accordance with the project specifications and Engineer's direction.
- Finish grading of the base material to the specified lines, grades, and elevations per the approved plans.
- Quality control testing and inspections, including required sampling, testing, and documentation of material placement and compaction.

No separate payment will be made for adjustments or modifications to the material quantity unless directed by the Engineer due to unforeseen conditions or scope changes.

Bid Item No. 214 and 215 – Construct 6" PCC Concrete Apron on Native Soils 214.01 Measurement

Measurement will be made on a square foot (SF) basis, based on the actual area of concrete apron placed and accepted.

214.02 Payment

Payment will be made at the contract unit price per square foot (SF) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the concrete apron installation, including but not limited to:

- Subgrade preparation, including removal of unsuitable materials and compaction of native soils to a minimum of 95% relative compaction.
- Placement of 6" PCC Concrete, including furnishing, placing, and finishing concrete to required thickness and tolerances.
- Placement of #4 rebar at 18 inches O.C. both ways for reinforcement as shown on the plans.
- Compaction and finishing of the concrete to required surface smoothness.
- Curing and protection of the concrete apron for strength and durability.
- Quality control testing, including materials, compaction, reinforcement, and finishing as per project specifications.

No additional payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 216 – Construct 6" Curb per SPPWC Standard 120-3, Type A1-6 216.01 Measurement

Measurement will be made on a linear foot (LF) basis, based on the actual length of completed and accepted curb placed.

216.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the curb installation, including but not limited to:

- Excavation and preparation of subgrade, including removal of unsuitable material, regrading, and compaction to a minimum of 95% relative compaction.
- Furnishing and placing of 6" curb, including formwork, mixing, placement, and finishing of concrete in compliance with SPPWC Standard 120-3, Type A1-6.
- Placement of steel reinforcement, if required by the standard or project specifications.
- Curing and protection of curb to ensure required strength and durability, including the use of curing compounds or other approved methods.

• Quality control testing and inspections, including sampling, testing, and documentation of materials and workmanship.

No additional payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 217, 218, and 219 – Install RCP Drain Pipe (24", 18", and 12") 217.01 Measurement

Measurement will be made on a linear foot (LF) basis for each size of pipe installed. The length of pipe shall be measured along the centerline of the pipe from end to end of each segment.

217.02 Payment

Payment will be made at the contract unit price per linear foot (LF) for each pipe size (24", 18", and 12"). Payment will constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the installation, including but not limited to:

- Excavation and preparation of trench, including the removal of unsuitable material, regrading, and compaction of trench bottom for proper pipe support.
- Furnishing, handling, and placing RCP pipe, including the required fittings, joints, and appurtenances, and placement to the specified elevations and alignment.
- Pipe jointing, including the installation of rubber gaskets, mortar, or other materials necessary for watertight joints.
- Backfilling of the trench, including the placement and compaction of backfill materials in accordance with compaction requirements.
- Shoring or trench safety as required for safe excavation and installation, following OSHA and local safety regulations.
- Testing of pipe alignment and functionality, including all necessary procedures to verify proper alignment and functionality of the pipe, along with cleaning or flushing after installation.
- Final grading and restoration of the area, including restoring disturbed surfaces such as roadways, landscaping, or other surfaces to match existing conditions or as specified in the project plans.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 220 – Construct Reinforced Concrete Sump 220.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted sump construction in accordance with the approved plans and detailed specifications.

220.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the sump installation, including but not limited to:

- Excavation and preparation of the sump location, including removal of unsuitable materials, regrading, and compaction of the subgrade to provide a stable foundation.
- Furnishing and placing reinforced concrete, including concrete mix, formwork, finishing, and all labor and materials necessary to construct the sump as specified in the Contract Documents.
- Placement of steel reinforcement, including any necessary bar supports, ties, and reinforcement as detailed in the Contract Documents.
- Curing and protection of concrete to ensure strength and durability, including the use of curing compounds or wet curing methods.
- Backfilling and compaction around the sump, ensuring proper compaction and restoration of disturbed areas.

• Quality control testing, including sampling, testing, and inspection of materials, reinforcement, and concrete finishing to ensure compliance with the specifications.

This item includes all necessary operations, materials, and equipment required for the reinforced concrete sump. No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 221 – Construct Staff Gauge

221.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted installation of the staff gauge, as specified in the approved plans and contract documents.

221.02 Payment

Payment will be made on a lump sum (LS) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the installation of the staff gauge, including but not limited to:

- Excavation and preparation of the staff gauge location, including any necessary clearing, grading, and leveling to ensure a proper foundation.
- Furnishing and installing the staff gauge, including all materials (e.g., posts, gauge, fasteners) and any necessary fittings, supports, or anchors as specified in the contract documents.
- Attachment and positioning of the staff gauge to ensure secure installation at the correct elevation and location, providing accurate readings.
- Quality control testing and inspection of the installation to ensure the staff gauge meets required specifications and functions as intended.
- Restoration of disturbed areas, including regrading, replanting, or other restoration necessary to match existing conditions, as directed by the Engineer.

This item includes all necessary operations, materials, and equipment required for the complete installation of the staff gauge. No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 222 – Construct U-Type Reinforced Concrete Headwall 222.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted construction of the U-type headwall, as specified in the approved plans and contract documents.

222.02 Payment

Payment will be made on a lump sum (LS) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the headwall installation, including but not limited to:

- Excavation and preparation of the headwall location, including removal of unsuitable material, regrading, and compaction of subgrade to provide a stable foundation.
- Furnishing and placing reinforced concrete, including formwork, labor, and materials in accordance with the plans and contract documents.
- Placement of steel reinforcement, including bar supports, ties, and any additional reinforcing required by the design.
- Curing and protection of concrete to achieve required strength and durability.
- Backfilling and compaction around the structure, including restoration of disturbed areas.
- Quality control testing and inspection of materials, reinforcement placement, and concrete finishing.

Final grading and restoration of the surrounding area to match existing or finished grade.

This item includes all necessary operations, materials, and equipment required for complete installation of the U-type reinforced concrete headwall. No separate payment will be made for adjustments in quantities or unforeseen conditions unless directed by the Engineer.

Bid Item No. 223 – Construct Wing-Type Reinforced Concrete Headwall 223.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted construction of the wing-type headwall, as specified in the approved plans and contract documents.

223.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the headwall installation, including but not limited to:

- Excavation and preparation of the headwall location, including removal of unsuitable material, regrading, and compaction of subgrade to provide a stable foundation.
- Furnishing and placing reinforced concrete, including formwork, labor, and materials in accordance with the plans and contract documents.
- Placement of steel reinforcement, including bar supports, ties, and any additional reinforcing required by the design.
- Curing and protection of concrete to achieve required strength and durability.
- Backfilling and compaction around the structure, including restoration of disturbed areas.
- Quality control testing and inspection of materials, reinforcement placement, and concrete finishing.
- Final grading and restoration of the surrounding area to match existing or finished grade.

This item includes all necessary operations, materials, and equipment required for complete installation of the wing-type reinforced concrete headwall. No separate payment will be made for adjustments in quantities or unforeseen conditions unless directed by the Engineer.

Bid Item No. 224 – Construct Gravity Headwall 224.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted construction of the gravity headwall, as specified in the approved plans and contract documents.

224.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the headwall installation, including but not limited to:

- Excavation and preparation of the headwall location, including removal of unsuitable material, regrading, and compaction of subgrade to provide a stable foundation.
- Furnishing and placing reinforced concrete, including formwork, labor, and materials in accordance with the plans and contract documents.
- Placement of steel reinforcement, including bar supports, ties, and any additional reinforcing required by the design.
- Curing and protection of concrete to achieve required strength and durability.
- Backfilling and compaction around the structure, including restoration of disturbed areas.
- Quality control testing and inspection of materials, reinforcement placement, and concrete finishing.
- Final grading and restoration of the surrounding area to match existing or finished grade.

This item includes all necessary operations, materials, and equipment required for complete installation of the gravity headwall. No separate payment will be made for adjustments in quantities or unforeseen conditions unless directed by the Engineer.

Bid Item No. 225 – Install 12" Water F-25 Medium Duty Drainage Gate, or Approved Equal 225.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted installation of the drainage gate, including all necessary components, in accordance with the approved plans and specifications.

225.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the drainage gate installation, including but not limited to:

- Furnishing and providing the drainage gate, meeting the specifications for a 12" Water F-25 Medium Duty Drainage Gate by Waterman Valve LLC or approved equal, including cast iron construction (ASTM A-126, Class B), bronze hinge pin, and neoprene seat face, rated for a seating head of up to 25 feet.
- Excavation and preparation of the installation site, including trenching, grading, removal of unsuitable materials, and compaction of the subgrade.
- Installation of the drainage gate per manufacturer's recommendations and project specifications, including proper positioning, securing, and setting to the required elevation.
- Testing and inspection to confirm proper operation, sealing, alignment, and compliance with performance standards.
- Backfilling and compaction around the structure, ensuring secure installation and restoration of surrounding areas to match original grade.
- Final grading and surface restoration of all disturbed areas.
- Compliance with all applicable regulations, standards, and manufacturer's guidelines.

This item includes all operations, materials, and equipment required to complete the drainage gate installation. No separate payment will be made for adjustments in quantities or unforeseen conditions unless directed by the Engineer.

Bid Item No. 226 – Install 24" x 24" Catch Basin with Steel Traffic Grate, FloGard FGP-24F Insert Filter, and 12" Open Sump with Gravel Bottom

226.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted installation of the catch basin assembly, including all necessary components, in accordance with the approved plans and specifications.

226.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the installation, including but not limited to:

- Furnishing and providing the 24" x 24" concrete catch basin with a steel traffic-rated grate meeting AASHTO HS-20 load requirements.
- Furnishing and installing the FloGard FGP-24F catch basin insert filter, or approved equal, including a UV-resistant geotextile fabric liner wrapped around a perforated core with an adsorbent designed to remove particulates, metals, and hydrocarbons.
- Excavation and preparation of the installation site, including trenching, grading, removal of unsuitable materials, and compaction of the subgrade.

- Installation of the catch basin and insert filter per manufacturer's recommendations and project specifications, including setting to required elevation and ensuring full operability.
- Installation of a 12" open sump with gravel bottom to facilitate sediment capture.
- Backfilling and compaction around the structure, and final grading and restoration of disturbed areas to match existing conditions.
- Compliance with applicable codes, standards, and manufacturer guidelines.

This item includes all operations, materials, and equipment required to complete the installation. No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 227 – Construct Concrete Pipe Inlet Riser per Caltrans STD. D75B, Type GCP with Grated Inlet per Caltrans STD. D77B, Type 36R

227.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted construction of the inlet riser assembly, including all necessary components, in accordance with the approved plans and specifications.

227.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the construction, including but not limited to:

- Furnishing and installing the concrete pipe inlet riser per Caltrans Standard Plan D75B, Type GCP, using materials and methods in accordance with the contract specifications.
- Furnishing and installing the grated inlet per Caltrans Standard Plan D77B, Type 36R, including a galvanized steel traffic-rated grate for a 36-inch drainage inlet.
- Excavation and preparation of the installation site, including trenching, grading, removal of unsuitable materials, and subgrade compaction to support the structure.
- Proper alignment, placement, and securing of the riser and grate at the required elevation to ensure operability and safety.
- Backfilling and compaction around the structure and final restoration of the surrounding area to match existing conditions.
- Compliance with all applicable standards, codes, and project specifications.

This item includes all necessary operations, materials, and equipment required to complete the inlet riser and grated inlet installation. No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 228 – Construct Rock Slope and Outlet Protection (Class II, T=14", Placement Method B)

228.01 Measurement

Measurement will be made on a per ton basis, based on the completed and accepted installation in accordance with the approved plans and specifications.

• 228.02 Payment

Payment will be made on a per ton basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including but not limited to:

- Constructing rock slope and outlet protection in accordance with Caltrans Standard Specification Section 72-2, using Class II rock, with a thickness of 14 inches and Placement Method B.
- Furnishing and installing rock riprap to reduce stormwater velocity and prevent erosion.

- Preparing the foundation, including excavation, grading, removal of unsuitable materials, and compaction of the base to ensure stability.
- Placing rock in conformance with specified thickness, slope, and alignment, with proper keying into the subgrade.
- Backfilling and compaction as needed to maintain structural integrity and performance.
- Final grading and restoration of disturbed areas to existing conditions.
- Compliance with all applicable codes, regulations, and project specifications.
- No separate payment will be made for changes in material quantities or unforeseen site conditions unless specifically authorized by the Engineer.

Bid Item No. 229 – Construct Concreted Rock Lined Channel 229.01 Measurement

Measurement will be made on a linear foot (LF) basis, measured along the channel centerline and based on the completed and accepted installation in accordance with the approved plans and specifications.

• 229.02 Payment

Payment will be made on a linear foot (LF) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including but not limited to:

- Constructing a concreted rock lined channel per Caltrans Standard Specification Section 72-3, using Class II rock with a thickness of 14 inches as per plan details.
- Preparing the channel foundation, including excavation, grading, and compaction of subgrade.
- Installing rock riprap to specified alignment, profile, and cross-section, in accordance with hydraulic design criteria.
- Applying concrete over the riprap to bind the rocks and form a durable lining.
- Final grading and restoration of all disturbed areas to match existing conditions.
- Compliance with all applicable codes, regulations, and project specifications.
- No additional payment will be made for adjustments in quantities or unanticipated field conditions unless approved by the Engineer.

Bid Item No. 230 – Construct Rock Slope and Outlet Protection (Class VI, T=32", Placement Method A)

230.01 Measurement

Measurement will be made on a per ton basis, based on the completed and accepted installation in accordance with the approved plans and specifications.

• 230.02 Payment

Payment will be made on a square foot (SF) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including but not limited to:

- Constructing rock slope and outlet protection in accordance with Caltrans Standard Specification Section 72-2, using Class VI rock, with a thickness of 32 inches and Placement Method A.
- Furnishing and placing riprap to protect slopes from erosion due to concentrated or sheet stormwater flows.
- Preparing the slope, including excavation, grading, removal of unsuitable material, and subgrade compaction.
- Placing rock in accordance with project specifications, ensuring proper interlocking and stability.
- Final grading and restoration of all disturbed areas to match existing terrain.

- Compliance with all applicable codes, regulations, and project specifications.
- No separate payment will be made for material quantity adjustments or unforeseen conditions unless directed by the Engineer.

Bid Item No. 231 – Install Concrete Wheel Stop in Accessible Parking Space 231.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted installation of each wheel stop in accordance with the approved plans and specifications.

231.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including but not limited to:

- Furnishing and providing the concrete wheel stop, meeting all applicable accessibility and design requirements specified in the contract documents.
- Preparing the installation site, including grading or removal of existing materials and providing a stable foundation.
- Installing the concrete wheel stop in the designated accessible parking space, including accurate placement to meet location, alignment, and elevation requirements.
- Anchoring the wheel stop securely using approved hardware to prevent displacement.
- Final grading and restoration of the surrounding area to match existing conditions.
- Compliance with all applicable codes, accessibility requirements, and project specifications.

This item includes all necessary operations, materials, and equipment required for the installation of the concrete wheel stop in full accordance with the project documents. No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 232 – Paint 4" White Parking Space Stripe 232.01 Measurement

Measurement will be made on a linear foot (LF) basis for the completed and accepted installation of the 4" white parking space stripe, measured along the centerline of the stripe.

232.02 Payment

Payment will be made on a linear foot (LF) basis, and shall include full compensation for all labor, materials, equipment, and incidentals necessary to complete the installation, including but not limited to:

- Furnishing and providing the paint, which shall be high-quality, durable, reflective white paint conforming to the City's traffic marking standards, suitable for pavement use, and maintaining visibility under various weather conditions.
- Preparation of the surface to ensure proper adhesion of the paint, including cleaning and necessary surface treatment.
- Application of the 4" white parking space stripe, including proper layout, marking of the parking space boundaries, and ensuring alignment per the plans.
- Allowing adequate curing time for the paint to dry and ensuring that the stripe adheres properly under the required temperature and weather conditions.
- Compliance with all applicable regulations, including the City's specifications for color, size, placement, and durability, and any local or federal standards.

This item includes all necessary operations, materials, and equipment required for the painting of the 4" white parking space stripe in full accordance with the City's standards. No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 233 – Demo Existing Irrigation Structure

233.01 Measurement

Measurement for demolition of the existing irrigation structure will be on an each (EA) basis, based on the complete and accepted demolition in accordance with the owner's direction.

233.02 Payment

Payment will be made on an each (EA) basis for the demolition of the existing irrigation structure, covering all labor, materials, equipment, and incidentals, including but not limited to:

- Removal of all components of the irrigation structure (e.g., concrete, pipe, valves, headwalls, and appurtenances).
- Disposal of materials in compliance with applicable regulations.
- Backfilling and restoration of the site to match surrounding grade or as directed by the Engineer.
- Coordination with the structure owner to confirm scope and demolition requirements.

No additional payment will be made for variations in demolition quantity or type unless authorized in writing by the Engineer.

Bid Item No. 234 – Protect Existing Power Pole and Guy Wire in Place

234.01 Measurement

Measurement will be on a lump sum (LS) basis, covering the complete and accepted protection of the existing power pole and guy wire during construction activities.

234.02 Payment

Payment will be made on a lump sum (LS) basis for the protection of the existing power pole and guy wire, covering all labor, materials, equipment, and incidentals, including but not limited to:

- Identification and verification of the location of the power pole and guy wire before construction begins.
- Installation of necessary protection measures (e.g., barriers, bracing, signage) to prevent damage or interference with the utility infrastructure.
- Coordination with the utility owner to ensure compliance with safety regulations and utility requirements.
- Maintenance of protection measures throughout the construction period and removal upon project completion.

No separate payment will be made for repairs or replacement of utility components damaged by the Contractor's operations. Any damage resulting from negligence is the Contractor's responsibility.

Bid Item No. 235 - Cut and Remove Abandoned Pipelines to Limits of Grading Conflict

235.01 Measurement

Measurement will be made by the linear foot (LF) of abandoned pipeline cut, removed, properly plugged, and disposed of, as measured along the centerline of the pipe within the grading conflict limits shown on the plans or as directed by the Engineer.

235.02 Payment

Payment will be made at the contract unit price per linear foot (LF) for the removal of abandoned pipelines, including all labor, materials, equipment, and incidentals, including but not limited to:

• Locating and verifying the alignment and depth of the abandoned pipelines for removal.

- Excavating to access pipelines within the grading conflict limits.
- Cutting and removing sections of the pipe to prevent interference with grading and construction.
- Plugging and sealing pipe ends to prevent infiltration or exfiltration, using approved materials and methods.
- Disposing of all removed materials per local regulations.
- Coordinating with relevant utility agencies as required.

Note: Water lines to be abandoned under a separate contract or bid item must be completed before this work. No additional payment will be made for coordination with such abandonment activities. Damage to adjacent facilities during this work will be repaired at the Contractor's expense. No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 236 – Adjust Existing Manhole to Grade

236.01 Measurement

Measurement will be made on a per each (EA) basis for each manhole adjusted to final grade in accordance with the plans and standard details.

236.02 Payment

Payment will be made at the contract unit price per each (EA) for adjusting the existing manhole to grade, covering all labor, materials, equipment, and incidentals, including but not limited to:

- Locating and exposing the existing manhole.
- Removing any existing frames, covers, grade rings, or appurtenances.
- Adjusting the manhole to the final grade using approved methods and materials as per Yucaipa Valley Water District (YVWD) Standard Drawing S-5.
- Furnishing and installing new or reusable frame and cover as required.
- Restoring the surrounding surface (pavement, soil, concrete, etc.) to match existing conditions or as shown on the plans.
- Removing and disposing of any bollards and associated foundations or below-grade components.
- Completing all adjustments to the satisfaction of the Engineer and in coordination with YVWD.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 237 – Install 1" Water Service and 3/4" Meter

237.01 Measurement

Measurement will be made on an each (EA) basis for each complete water service installation, as shown on the plans and specified herein.

237.02 Payment

Payment will be made at the contract each (EA) price and shall include full compensation for all labor, materials, equipment, tools, and incidentals necessary to complete the installation, including but not limited to:

- Excavation, bedding, and backfill for trenching associated with the water service installation.
- Furnish and install a 1" water service line, including corporation stop, service saddle, and all necessary fittings.
- Facilitate payment for the required water meter between the Agency and SMWC.

- Furnish and installing a 3/4" water meter and meter box per SMWC Standard Drawing W-4A, modified to omit the U-branch fire service assembly.
- Connect to the existing water main, including tapping, fittings, and coordination with the water purveyor.
- Pressure testing, flushing, and disinfection of the new service line, in accordance with applicable standards.
- Restoration of disturbed surfaces, including paving, landscaping, or hardscape, to match existing conditions.
- Coordination with utility agencies and compliance with local standards and permit requirements.
- All materials and workmanship shall conform to applicable AWWA standards including, but not limited to, AWWA C800, C901, and C700, or as directed by the Engineer.

No separate payment will be made for the omission of the U-branch fire service assembly or for restoration work. Full compensation shall be included in the lump sum price unless otherwise directed by the Engineer due to changes in scope or unforeseen conditions.

Bid Item No. 238 - Construct CSP Grated Inlet

238.01 Measurement

Measurement will be made on an each (EA) basis, based on the completed and accepted construction of the corrugated steel pipe (CSP) grated inlet in accordance with the approved plans and RCFC&WCD Standard Drawing CB108.

238.02 Payment

Payment will be made on an each (EA) basis and shall include full compensation for all labor, materials, equipment, and incidentals necessary to construct the grated inlet, including but not limited to:

- Furnishing and installing a corrugated steel pipe inlet in accordance with RCFC&WCD Standard Drawing CB108.
- Modifying the inlet to a 24-inch diameter CSP.
- Omitting all standard sidewall openings as shown in the typical detail.
- Fabrication and installation of a galvanized steel grate designed for traffic loads and securely fastened to the structure.
- Excavation, trenching, and preparation of the installation area, including removal of unsuitable materials and subgrade compaction.
- Setting the structure to the required line and grade, ensuring operability and safety.
- Backfilling, compaction, and surface restoration to match existing conditions. Compliance with all applicable codes, standard plans, and project specifications.

This bid item includes all work necessary to complete the modified grated inlet as specified. No separate payment will be made for modifications, changes in material quantities, or site-specific adjustments unless directed in writing by the Engineer.

Bid Item No. 239 - Construct 20"x20" Masonry Column with Stone Veneer and 2" Pyramidal Cap

239.01 Measurement

Measurement will be made on an each (EA) basis for each column constructed and completed in place in accordance with the plans and details.

239.02 Payment

Payment will be made at the contract unit price per each (EA) and shall include full compensation for all labor, materials, equipment, and incidentals, including but not limited to:

- Excavation and construction of a footing or foundation as required to support the column per project plans and structural requirements.
- Furnishing and installing masonry units and stone veneer to achieve a 20"x20" column profile.
- Applying stone veneer finish as shown on the plans, ensuring a uniform and aesthetically consistent appearance.
- Furnishing and installing a 2" pyramidal cap, fabricated and finished per the detail shown on the plans.
- Backfilling and restoring surrounding surfaces as necessary.
- Coordinating with other site features to ensure alignment and placement matches plan intent.
- Performing all work in accordance with the detail shown on Sheet 5 and as directed by the Engineer.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 240 – Install 7' High Welded Steel Fence

240.01 Measurement

Measurement will be made per linear foot (LF) of fence installed, complete in place in accordance with the plans, approved shop drawings, and manufacturer specifications.

240.02 Payment

Payment will be made at the contract unit price per linear foot (LF), and shall include full compensation for all labor, materials, equipment, and incidentals, including but not limited to:

- Preparation and submittal of shop drawings and product data for review and approval, including fence layout, elevations, connections, materials, and finishes.
- Furnishing and installing welded steel fencing in accordance with the approved shop drawings and manufacturer specifications.
- Fabricating and installing fence panels and posts as per the approved shop drawings.
- Applying a protective coating using the Galva-Guard I system, consisting of a high-solids primer and gloss black polyurethane paint over pre-galvanized tubing.
- Setting posts in concrete footings or foundations as shown or required.
- Aligning and securing fence panels per approved shop drawings and verified field conditions.
- Providing finish coating or paint system as specified, including touch-up for any field welds or abrasions.
- Coordinating with adjacent site features to ensure proper transitions, clearances, and terminations.
- Ensuring compliance with the design intent shown on the plans and subject to field verification and approval by the Engineer.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer. All work related to preparation, submittal, and incorporation of shop drawings shall be considered included in this item.

Bid Item No. 241 – Install 7' High Welded Steel Sliding Gate

241.01 Measurement

Measurement for "Install 7' High Welded Steel Sliding Gate" will be made on an each (EA) basis, covering the complete installation of the sliding gate, including all associated components, in accordance with the plans, approved shop drawings, and manufacturer specifications.

241.02 Payment

Payment for this item shall be made on an each (EA) basis for the "Install 7' High Welded Steel Sliding Gate," and shall constitute full compensation for all labor, materials, equipment, tools, and incidentals necessary to complete the work, including but not limited to:

- Preparation and submittal of shop drawings and product data for review and approval by the Engineer, including gate layout, elevations, connections, materials, and finishes.
- Furnishing and installing the welded steel sliding gate in accordance with the approved shop drawings and manufacturer specifications.
- Fabricating and constructing the gate framework, bottom rail, ground track, and components as per the approved shop drawings.
- Installing V-Groove wheels, roller assemblies, and guide posts as specified, ensuring smooth operation and safety.
- Applying a protective coating using the Galva-Guard I system, consisting of a high-solids primer and gloss black polyurethane paint over pre-galvanized tubing.
- Coordinating with adjacent site features to ensure proper transitions, clearances, and terminations.
- Providing finish coating or paint system as specified, including touch-up for any field welds or abrasions.
- Ensuring compliance with the design intent shown on the plans, subject to field verification and approval by the Engineer.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer. All work related to preparation, submittal, and incorporation of shop drawings shall be considered included in this item.

Bid Item No. 242 – Install 7' High Chain Link Fence with Barbed Wire

242.01 Measurement

Measurement will be made on a linear foot (LF) basis for the complete installation of the 7' high chain link fence with barbed wire, in accordance with the project plans and specifications.

242.02 Payment

Payment will be made on a linear foot (LF) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required to install the fence and barbed wire, including but not limited to:

- Furnishing and installing chain link fabric, posts, top and bottom rails, tension bars, and all necessary hardware.
- Installation of barbed wire, including supports and proper tensioning.
- Installation of posts in concrete footings, spaced as specified.
- Providing protective coatings (e.g., galvanized or vinyl) as required by the project specifications.
- Coordination with adjacent site features and property owners to ensure proper alignment and safety, including handling electric fencing or livestock concerns.
- Backfilling and restoring disturbed areas to match existing grade conditions.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer. All work associated with this item is included in the lump sum price.

Bid Item No. 243, 244, and 245 – Install Chain Link Swing Gates with Barbed Wire (12', 15', and 20' Wide)

243.01 Measurement

Measurement will be made on an each (EA) basis for the complete installation of all swing gates (12', 15', and 20' wide) as per the plans and SPPPWC Standard Drawing 600-3. The 20' wide gate shall be a double swing gate.

243.02 Payment

Payment will be made on an each (EA) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required to complete the installation of the gates, including but not limited to:

- Furnishing and installing chain link swing gates (12', 15', or 20' wide) in accordance with SPPPWC Standard Drawing 600-3.
- Installing 7' high chain link fabric and securing it to the gate frame with tension bars.
- Installing barbed wire (minimum 12 gauge), including supports and tensioning, along the top of the gate.
- Providing and installing gate hardware (hinges, latches, locks, etc.) for proper gate operation.
- Installing posts and gate frame, including any necessary reinforcement, with posts set in concrete footings.
- Installing tension bands and braces to secure the gate assembly.
- Applying protective coatings (galvanized or vinyl-coated) to the gate frame, barbed wire, and posts.
- Coordinating with adjacent site features to ensure proper gate alignment and clearances.
- Backfilling and restoring surrounding areas to match grade conditions.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer. All work is included in the lump sum (LS) price.

Bid Item No. 246 – Remove and Dispose of Existing Fence

246.01 Measurement

Measurement will be made on a linear foot (LF) basis for the complete removal and disposal of existing fence as per the plans.

246.02 Payment

Payment will be made on a linear foot (LF) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required for the removal and disposal of the existing fence, including but not limited to:

- Removing existing fence, including posts, rails, fabric, and other components, as specified.
- Disposing of all removed materials in compliance with local regulations, including recycling or proper disposal of debris, concrete, and fencing components.
- Removing concrete footings or subsurface obstructions related to the fence.
- Coordinating with adjacent property owners for permission to remove and replace any fence located on or near private property.
- Coordinating with property owners where animals (including horses and livestock) are present, ensuring temporary fencing or barricades are in place to maintain containment.
- Relocating any existing electric fencing on adjacent properties as necessary to protect animals from contact with the new fence.
- Maintaining secure access and providing interim security measures during fence removal until new fencing is installed.
- Backfilling and restoring areas where posts or footings were removed, matching grade and site conditions to the satisfaction of the Engineer.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 247 – Construct Sandbag Check Dam

247.01 Measurement

Measurement will be made on a per each (EA) basis for each sandbag check dam installed as per the plans and CASQA BMP Handbook SC-4.

247.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals, including but not limited to:

- Furnish and install sandbag check dams in compliance with CASOA BMP Handbook SC-4.
- Ensure proper placement, alignment, and height for effective sediment control.
- Monitor and maintain the check dam, including timely sediment removal when the depth reaches one-third of the dam height.
- Perform periodic maintenance and re-establish the dam as necessary.
- Coordinate with site grading to ensure proper placement.
- Properly dispose of sediment as required by the project specifications.

No separate payment will be made for adjustments in material quantities, sediment removal, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 248 – Install Silt Fence

248.01 Measurement

Measurement will be made on a linear foot (LF) basis, based on the total length of silt fence installed as per the plans and in accordance with CASQA BMP Handbook SE-1.

248.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the silt fence installation, including but not limited to:

- Furnishing and installing silt fence per the specifications and details outlined in CASQA BMP Handbook SE-1.
- Proper placement and securing of the silt fence at designated locations as shown on the plans or as directed by the Engineer to prevent sediment from leaving the project site during construction activities.
- Installation of posts, fabric, and other components, ensuring proper fabric burial depth and secure attachment to posts.
- Periodic inspection and maintenance of the silt fence to ensure its effectiveness, including repairing damaged sections and removing accumulated sediment as necessary.
- Disposal of sediment in compliance with project specifications and local environmental regulations, ensuring the silt fence remains functional throughout construction.
- Removal and disposal of silt fence upon project completion or when no longer required, in accordance with project requirements.
- All work shall be performed in compliance with CASQA BMP Handbook SE-1 and to the satisfaction of the Engineer.

No additional payment will be made for adjustments in material quantities, sediment removal, maintenance, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 249 – Install Fiber Roll Slope Protection

249.01 Measurement

Measurement will be made on a linear foot (LF) basis, based on the total length of fiber rolls installed along the designated slope areas as per the plans and in accordance with CASQA BMP Handbook SE-5.

249.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the fiber roll slope protection installation, including but not limited to:

- Furnishing and installing fiber roll slope protection in accordance with the specifications and details provided in CASQA BMP Handbook SE-5, ensuring proper placement along slopes or disturbed areas to prevent erosion and sediment runoff.
- Positioning and securing fiber rolls at designated locations to create a continuous barrier along the slope, ensuring the required overlap and burial depth to prevent water from undercutting the rolls.
- Anchoring fiber rolls using appropriate stakes or fasteners as specified in the CASQA BMP Handbook SE-5 to maintain the integrity of the slope protection during construction activities and rainfall events.
- Performing periodic inspection and maintenance of the fiber roll slope protection to ensure its effectiveness, including repairing or replacing damaged or displaced fiber rolls.
- Disposing of excess material or damaged fiber rolls as required by the project specifications.
- Coordinating with adjacent work areas to ensure the slope protection does not interfere with ongoing construction activities and making necessary adjustments for proper function.
- All work shall be performed in accordance with CASQA BMP Handbook SE-5 and to the satisfaction of the Engineer.

No additional payment will be made for adjustments in material quantities, maintenance, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 250 – Construct Stabilized Construction Entrance

250.01 Measurement

Measurement will be made on a per each (EA) basis, based on the total number of entrances constructed as per the plans and CASQA BMP Handbook TC-1.

250.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the stabilized construction entrance installation, including but not limited to:

- Furnishing and installing the stabilized construction entrance in accordance with CASQA BMP Handbook TC-1 to prevent sediment tracking onto roadways and adjacent properties.
- Providing and compacting the appropriate aggregate material to the required depth and dimensions for vehicle access stabilization.
- Installing geotextile fabric (if required) underneath the aggregate to prevent material migration.
- Ensuring proper installation with the required width, length, slope, and drainage to prevent sediment runoff.
- Performing periodic maintenance, including replenishing aggregate and removing sediment to prevent soil tracking onto public streets.
- Removing excess material or damaged components and restoring the area once the entrance is no longer needed.

• All work shall be performed in accordance with CASQA BMP Handbook TC-1 and to the satisfaction of the Engineer.

No additional payment will be made for adjustments in material quantities, maintenance, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 251 – Construct Storm Drain Inlet Protection

251.01 Measurement

Measurement will be made on a per each (EA) basis, based on the total number of storm drain inlets protected as per the plans and CASQA BMP Handbook SC-10.

251.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the storm drain inlet protection installation, including but not limited to:

- Furnish and install storm drain inlet protection in accordance with CASQA BMP Handbook SC-10, including silt fences, gravel bags, or other approved methods.
- Ensure proper installation to prevent sediment from entering the storm drain system.
- Maintain the protection throughout the project, including sediment removal after significant rainfall events or when necessary.
- Dispose of accumulated sediment per local regulations.
- Perform periodic inspections and repairs to maintain effectiveness.
- Coordinate with storm drain cleaning to ensure proper removal of protection prior to maintenance.

No additional payment will be made for adjustments in material quantities, sediment removal, maintenance, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 252 – Construct Concrete Washout Area

252.01 Measurement

Measurement will be made on a per each (EA) basis, for each concrete washout area constructed per the plans and CASQA BMP Handbook WM-8.

252.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the concrete washout area installation, including but not limited to:

- Furnish and construct the washout area per CASQA BMP Handbook WM-8, including excavation, containment structure, and lining (if applicable).
- Install signage and access control to identify the washout area.
- Ensure adequate capacity for concrete washout, preventing discharge to storm drains or surrounding soil.
- Maintain the washout area, including removal of accumulated waste and replenishing liner/structure as needed.
- Relocate or reconstruct the washout area if necessary to accommodate construction changes.
- Remove and restore the area to pre-construction conditions at project completion.

No additional payment will be made for adjustments in material quantities, maintenance, relocation, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 253 – Construct Material Delivery and Storage Area

253.01 Measurement

Measurement will be made on a per each (EA) basis for each material delivery and storage area constructed per the plans and CASQA BMP Handbook WM-1.

253.02 Payment

Payment will be made at the contract unit price per each (EA) and shall include full compensation for all labor, materials, equipment, and incidentals, including but not limited to:

- Establishing a material storage area per CASQA BMP Handbook WM-1, including site preparation, ground cover, and signage.
- Installing secondary containment for materials that may affect water quality (e.g., chemicals, paints, solvents).
- Implementing protective measures to control runoff, wind dispersal, and unauthorized discharge.
- Maintaining the area, including regular inspections, spill cleanup, and ensuring BMP compliance.
- Relocating or reconstructing the storage area as needed during the project. Removing and restoring the area upon project completion.

No additional payment will be made for adjustments in material quantities, maintenance, relocation, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 254 – Construct Sanitary/Waste Management Facilities

254.01 Measurement

Measurement will be made on a per each (EA) basis, for each designated area or facility established per the plans and CASQA BMP Handbook WM-9.

254.02 Payment

Payment will be made at the contract unit price per each (EA) and shall include full compensation for all labor, materials, equipment, and incidentals, including but not limited to:

- Furnishing and installing sanitary and solid waste management facilities per CASQA BMP Handbook WM-9, including portable toilets, waste receptacles, recycling bins, and containment structures.
- Locating facilities away from storm drain inlets, water bodies, and drainage paths, and providing secondary containment to prevent leaks or spills.
- Installing signage and access controls to ensure proper use of the facilities.
- Performing routine maintenance, including servicing sanitary units, removing solid waste, and cleaning up spills or improperly discarded materials.
- Ensuring containers are covered and in good condition to prevent wind dispersal and stormwater contamination.
- Removing facilities and disposing of waste at the end of construction or as directed, and restoring the area to its original condition.
- Complying with all local regulations and health codes for sanitation and waste handling.

No additional payment will be made for adjustments in material quantities, servicing, maintenance, or unforeseen site conditions unless directed by the Engineer.

Bid Item No. 255 – Apply Hydraulic Seed and Mulch

255.01 Measurement

Measurement will be made on a square foot (SF) basis, based on the total surface area where hydraulic

seed and mulch are applied in accordance with the plans and CASQA BMP Handbook EC-3 and EC-4.

255.02 Payment

Payment will be made at the contract unit price per square foot (SF) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to apply hydraulic seed and mulch, including but not limited to:

- Furnishing and applying hydraulic seed and mulch in compliance with the specifications of CASQA BMP Handbook EC-3 (Hydraulic Mulch) and EC-4 (Hydroseeding), including preparing seed mixtures appropriate for the project location, soil type, and season.
- Preparing soil surfaces through roughening or scarifying to ensure proper adhesion and germination of applied materials.
- Mixing and applying hydraulic seed, mulch, tackifiers, and other approved additives at specified rates using hydraulic application equipment designed to ensure even distribution across designated disturbed or graded areas.
- Ensuring full coverage and application thickness in accordance with project specifications and BMP requirements to promote erosion control and vegetation establishment.
- Conducting periodic inspections and maintenance of the treated areas, including reapplication if areas become damaged or ineffective due to weather, erosion, or construction activity.
- Proper disposal of excess materials, cleaning of application equipment, and managing overspray or drift to prevent impact to non-target areas.
- Coordination with site work to ensure seeding and mulching activities do not conflict with ongoing or future construction phases.
- All work shall be performed in accordance with CASQA BMP Handbook EC-3 and EC-4 and to the satisfaction of the Engineer.

No additional payment will be made for adjustments in material quantities, reapplication, maintenance, or unforeseen site conditions unless directed by the Engineer.

SGPWA Raw Waterline Extension and Rehabilitation Plan

Bid Item No. 301 – Mobilization

301.01 Measurement

Mobilization will be measured on a lump sum (LS) basis. No separate measurement will be made for partial mobilization activities.

301.02 Payment

Payment at the contract lump sum price includes full compensation for all work and costs related to the initiation of construction activities for the raw waterline extension and rehabilitation, including but not limited to:

- Transporting personnel, equipment, and materials to and from the project site.
- Establishing staging areas, access routes, and laydown yards.
- Installing temporary facilities such as field offices, utilities, fencing, and sanitation.
- Acquiring and delivering initial materials and equipment for the project.
- Providing required submittals prior to construction, including safety plans, utility coordination, and permits.
- Coordinating with water purveyors, utility owners, and stakeholders.
- Demobilization at the end of the work, including removal of temporary facilities and site restoration, unless paid for separately.

No additional payment will be made for remobilization due to project delays or rework unless authorized by the Engineer.

Bid Item No. 302 – Testing and Hydrostatic Pressure Testing for Raw Water Line 302.01 Measurement

Measurement will be made on a lump sum (LS) basis. No separate measurement will be made for individual pressure testing activities or for temporary components used to facilitate testing.

302.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, materials, equipment, and services necessary to complete hydrostatic pressure testing of the raw waterline and appurtenances, in accordance with the Contract Documents. This includes, but is not limited to:

- Preparation and submission of a detailed testing plan for Engineer approval, including procedures, scheduling, and documentation.
- Hydrostatic pressure testing of all newly installed raw waterlines and appurtenances in accordance with AWWA C600, applicable local standards, and project design specifications. The required test pressure is 50 psi, consistent with the pipeline's gravity flow and low-pressure design.
- Installation, maintenance, and removal of all **temporary components** required to perform pressure testing, including but not limited to temporary blow-off assemblies, air release points, test bulkheads, and test plates. These components shall be furnished and installed by the Contractor and shall not be considered part of the permanent works unless otherwise indicated.
- Inspection, repair, and retesting of any leaks, failures, or deficiencies identified during testing.
- Documentation of test results, including pressure readings, test durations, observed leaks, and corrective actions taken.
- Coordination with local agencies as needed to ensure compliance with applicable requirements.
- Submission of final test reports and documentation to the Engineer and relevant authorities.
- All costs associated with testing, retesting, and any corrective actions required due to failure to meet specified pressure standards.

No additional payment will be made for temporary testing components, retesting, or remedial work resulting from failure to meet the specified testing standards.

Bid Item No. 303 – Striping and Signage Repair 303.01 Measurement

Measurement will be made on a lump sum (LS) basis. No separate measurement will be made for individual repairs or replacements of striping and signage.

303.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, materials, equipment, and services necessary to repair, replace, or restore existing striping and signage, including but not limited to:

- Repair or replacement of damaged or removed striping to match original dimensions, colors, and placement.
- Repair or replacement of damaged, missing, or removed regulatory, warning, and directional signage.
- Surface preparation prior to installation of new striping or signage.
- Installation of new striping or signage, including posts and hardware, to meet project specifications and standards.
- Compliance with local, state, and federal traffic control standards.

• Coordination with traffic management agencies for proper placement of striping and signage. All costs related to the repair or replacement, including materials, labor, and coordination, are incidental to this item. No additional payment will be made for unforeseen conditions, excessive repairs, or additional work unless directed by the Engineer.

Bid Item No. 304 – Join Existing Water Main and Provide Temporary CIPP Lining Access 304.01 Measurement

Measurement will be made on an each (EA) basis. No separate measurement will be made for individual access or connection work.

304.02 Payment

Payment at the contract each (EA) price includes full compensation for all labor, materials, equipment, coordination, and services necessary to join the existing water main and provide temporary access for CIPP lining, including but not limited to:

- Cutting and connecting the new PVC DR14 pipe to the existing steel pipe using appropriate fittings to ensure a secure, leak-proof connection per contract specifications.
- Excavating and providing a 4' x 4' minimum access pit for CIPP lining equipment, as specified by the Engineer or CIPP subcontractor.
- Coordinating with the CIPP subcontractor to ensure timely access and avoid delays.
- Protecting existing infrastructure during excavation and access pit installation.
- Backfilling and restoring the access pit after CIPP lining operations are complete.
- Providing temporary shoring, bracing, or safety measures as needed for excavation.

All costs for excavation, joining the water main, providing access for CIPP lining, coordination, and restoration are incidental to this item. No additional payment will be made for unforeseen conditions or delays.

Bid Item No. 305 – Install 14" PVC C-900 DR-14 Pipe, Bedding, and Backfill 305.01 Measurement

Measurement will be made on a linear foot (LF) basis, measured along the centerline of the installed pipe.

305.02 Payment

Payment at the contract unit price per linear foot (LF) includes full compensation for all labor, materials, equipment, and services necessary to furnish and install the pipe, bedding, and backfill, and meet contract requirements, including but not limited to:

- Furnishing and installing 14" PVC C-900 DR-14 pipe, including jointing and alignment per AWWA C900.
- Providing bedding and trench backfill, compacted to required density, per S.M.W.C. Standard W-16
- Potholing to verify existing utilities and working around utilities, structures, or obstructions in a safe manner.
- Making watertight joints in accordance with AWWA C900 and performing all required pressure and leakage testing.

All costs for trench excavation, dewatering, shoring, compaction, utility coordination, and other incidentals are included in the unit price. No separate payment will be made for these activities.

Bid Item No. 306 – Install 14" Elbow with Megalug Restraints

306.01 Measurement

Measurement will be made on an each (EA) basis for the complete installation of the 14" elbow and

Megalug restraints, in accordance with the project plans and specifications. No separate measurement will be made for individual components.

306.02 Payment

Payment will be made on an each (EA) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required to install the 14" elbow and Megalug restraints, including but not limited to:

- Furnishing and installing the 14" elbow fitting as shown on the plans.
- Installing Megalug restraints per manufacturer specifications on both sides of the elbow.
- Maintaining a minimum 10-foot clearance from all pipe joints near the elbow, per project plans.
- Setting the elbow and restraints at the correct angle and location as indicated in the design drawings.
- Excavation, backfill, and restoration of disturbed areas.

No separate payment will be made for unforeseen conditions or additional materials unless directed by the Engineer. All work is included in the lump sum price.

Bid Item No. 307 – Install 14" Butterfly Valve

307.01 Measurement

Measurement will be made on an each (EA) basis for each 14" butterfly valve installed and accepted, in accordance with the project plans and specifications.

307.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to furnish and install the 14" butterfly valve, including but not limited to:

- Furnishing and installing valves per S.M.W.C. Standards W-10 and W-11.
- Installing actuators (manual or motorized) as specified in the plans.
- Placing valves in the correct orientation for proper sealing and operation.
- Providing gaskets, flanges, and fittings; making all required connections.
- Testing valve function and sealing under operational conditions.
- Complying with all applicable standards and specifications.

No separate payment will be made for excavation, backfill, or additional work unless directed by the Engineer.

Bid Item No. 308 – Install 6" Dry Barrel Blow-Off Assembly

308.01 Measurement

Measurement will be made on an each (EA) basis for each 6" dry barrel blow-off assembly installed and accepted, in accordance with the project plans and specifications.

308.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to furnish and install the 6" dry barrel blow-off assembly, including but not limited to:

- Furnishing and installing the assembly per S.M.W.C. Standard W-7B.
- Setting the blow-off hydrant and valve box at correct height and location relative to finished grade.
- Providing all pipe, valves, fittings, thrust restraints, and joint materials.

- Locating existing utilities, crossing obstructions, and coordinating with utility owners.
- Testing the assembly for proper operation.
- Complying with S.M.W.C. Standard W-7B and applicable industry standards.

No separate payment will be made for excavation, backfill, grading, or utility coordination. All work is included in the unit price.

Bid Item No. 309 – Install 4" Dry Barrel Blow-Off Assembly

309.01 Measurement

Measurement will be made on an each (EA) basis for each 4" dry barrel blow-off assembly installed and accepted, in accordance with the project plans and specifications.

309.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to furnish and install the 4" dry barrel blow-off assembly, including but not limited to:

- Furnishing and installing the assembly per S.M.W.C. Standard W-7A, including all valves, piping, and fittings.
- Setting the blow-off hydrant and valve box at the correct height and location relative to finished grade.
- Locating existing utilities, crossing obstructions, and coordinating with utility owners.
- Testing the assembly to verify proper operation.
- Complying with S.M.W.C. Standard W-7A and all applicable industry standards.

No separate payment will be made for excavation, backfill, grading, or utility coordination. All work is included in the unit price.

Bid Item No. 310 – Install 2" Air-Vacuum Valve Assembly

310.01 Measurement

Measurement will be made on an each (EA) basis for each 2" air-vacuum valve assembly installed and accepted, in accordance with the project plans and specifications.

310.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to furnish and install the 2" air-vacuum valve assembly, including but not limited to:

- Furnishing and installing the complete assembly per S.M.W.C. Standard W-8B.
- Providing all required piping, fittings, valves, thrust restraints, and appurtenances.
- Setting the valve box and lid at the correct height and location relative to finished grade.
- Locating and crossing existing utilities, and coordinating with utility owners.
- Testing the valve to ensure proper operation under system conditions.
- Complying with S.M.W.C. Standard W-8B and applicable industry standards.

No separate payment will be made for excavation, backfill, grading, or utility coordination. All work is included in the unit price.

Bid Item No. 311 – Install Pipe Barricade

311.01 Measurement

Measurement will be made on an each (EA) basis for each pipe barricade installed and accepted, in accordance with the project plans and specifications.

311.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to furnish and install the pipe barricade, including but not limited to:

- Furnishing and installing all components per S.M.W.C. Standard W-12, including steel pipe, concrete footings, and connections.
- Excavating, placing, and backfilling footings as detailed in the standard.
- Setting barricade components to the specified height, alignment, and spacing.
- Providing coatings, painting, and finishes as required by the plans and Standard W-12.
- Complying with S.M.W.C. Standard W-12 and applicable industry standards.

No separate payment will be made for excavation, backfill, concrete work, or surface preparation. All work is included in the unit price.

Bid Item No. 312 – Bore and Jack 30" Casing

312.01 Measurement

Measurement will be made on a linear foot (LF) basis along the installed length of 30" casing pipe, as accepted by the Engineer.

312.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to complete the bore and jack installation, including but not limited to:

- Furnishing and installing 30" steel casing pipe (min. 3/8" wall thickness) via bore and jack method.
- Steel casing shall be butt welded of sheets conforming to ASTM A283. All field joints shall be butt welded in full circumference.
- Steel casing of the size and thickness specified on the plans shall be installed in place by jacking methods without the use of water or air, to specified alignment, elevation, and maintaining minimum vertical clearance per plan. Should voids or loss of ground occur during jacking operations, said voids shall be filled with grout consisting of a lean mixture of cement and sand.
- Providing and installing casing spacers and filling annular space with blown sand.
- Excavating, shoring, dewatering, and backfilling jacking and receiving pits.
- Restoring surface conditions upon completion.
- Complying with RCFC&WCD Encroachment Permit No. 5-0-00160-4240 and all regulatory requirements, including pre-construction notification and NPDES compliance.
- Coordinating with the Engineer, utility owners, and regulatory agencies as required.

No separate payment will be made for welding, pits, spacers, sand fill, dewatering, surface restoration, or permit compliance. All work is included in the unit price.

Bid Item No. 313 – Repair Trench for Water Mains and Appurtenances

313.01 Measurement

Measurement will be made on a linear foot (LF) basis along the centerline of the trench, as accepted in place by the Engineer.

313.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to complete trench repair, including but not limited to:

- Sawcutting, removing, and disposing of existing pavement as needed for trench work.
- Backfilling and compacting in accordance with the City of Calimesa Trench and Excavation Repair Standard.
- Furnishing and placing aggregate base and subgrade materials, including moisture conditioning and testing.
- Installing asphalt concrete pavement (up to 3") per project geotechnical recommendations.
- Matching existing grade and cross-slope with a smooth, uniform asphalt finish.
- Providing traffic control, dust suppression, and safety measures during operations.
- Furnishing and installing temporary or permanent pavement to maintain surface integrity.
- Removing temporary pavement, if required, prior to final street improvements.
- Coordinating with the Engineer, City, and agencies to ensure restoration meets interim and final requirements.

No separate payment will be made for temporary paving, sawcutting, base preparation, compaction, AC placement, or coordination with street construction. All work is included in the unit price.

Bid Item No. 314 – Repair Trench for Water Mains and Appurtenances (omit T-cut)

314.01 Measurement

Measurement will be made on a linear foot (LF) basis along the centerline of the trench, as accepted in place by the Engineer.

314.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and incidentals required to complete trench repair, including but not limited to:

- Sawcutting, removing, and disposing of existing pavement as needed for trench work.
- Backfilling and compacting in accordance with the City of Calimesa Trench and Excavation Repair Standard. The trench repair standard shall be modified for this bid item to omit the onefoot T-cut in areas where asphalt remove and replace is proposed per the separate street improvement plans.
- Furnishing and placing aggregate base and subgrade materials, including moisture conditioning and testing.
- Installing asphalt concrete pavement (up to 3") per project geotechnical recommendations.
- Matching existing grade and cross-slope with a smooth, uniform asphalt finish.
- Providing traffic control, dust suppression, and safety measures during operations.
- Furnishing and installing temporary or permanent pavement to maintain surface integrity.
- Removing temporary pavement, if required, prior to final street improvements.
- Coordinating with the Engineer, City, and agencies to ensure restoration meets interim and final requirements.

No separate payment will be made for temporary paving, sawcutting, base preparation, compaction, AC placement, or coordination with street construction. All work is included in the unit price.

Bid Item No. 315 – Install Flow Meter and Vault Assembly

315.01 Measurement

Measurement will be made on an each (EA) basis for the complete installation of the flow meter and vault assembly, as accepted by the Engineer.

315.02 Payment

Payment will be made at the contract each (EA) price and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary for installation, including but not limited to:

- Furnishing and installing the flow meter and associated components (flanges, gaskets, bolts, fittings).
- Furnishing and installing the vault structure (precast or cast-in-place) as shown, including base, walls, cover, and access frame.
- Excavating, trenching, and backfilling for the vault and piping installation.
- Providing thrust restraints, pipe supports, and vault bedding materials as required.
- Coordinating and performing electrical or telemetry connections, including conduit and wiring.
- Conducting field testing, calibration, and startup to confirm operational readiness.
- Coordinating with the Engineer, City, and utility providers as necessary.
- Restoring disturbed areas, including pavement, surface improvements, and grading.

No separate payment will be made for excavation, backfill, surface restoration, electrical connections, testing, or coordination. All work is included in the lump sum price.

Bid Item No. 316 - Install 14" Waterman Industries F-25 Medium Duty Drainage Gate

316.01 Measurement

Measurement will be made on an each (EA) basis for each gate installed and accepted by the Engineer.

316.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the installation, including but not limited to:

- Furnishing and installing the 14" Waterman Industries F-25 Medium Duty Drainage Gate (or approved equal) with required hardware and accessories.
- Mounting the gate to concrete structures, headwalls, or flanged pipe ends as specified.
- Installing anchor bolts, seals, frames, guides, and operating mechanisms.
- Ensuring proper alignment, seating, and watertight fit in the closed position.
- Testing for operability, leakage, and alignment per manufacturer's recommendations.
- Coordinating with the Engineer for inspection and acceptance.
- Restoring the work area and completing surface cleanup.

No separate payment will be made for mounting hardware, field adjustments, testing, or coordination. All costs are included in the unit price.

Bid Item No. 317 – Rehabilitate Existing 14" Steel Pipeline with CIPP Lining

Bid Item No. 317A – CIPP Lining – Preliminary Inspection

317A.01 Measurement

Measurement will be made on a linear foot (LF) basis along the centerline of the pipeline inspected prior to cleaning, as accepted by the Engineer.

317A.02 Payment

Payment will be made at the contract unit price per linear foot and shall constitute full

compensation for all labor, materials, equipment, mobilization, remobilization(s), and incidentals required to perform a preliminary CCTV inspection and site investigation. Work shall be performed in accordance with Section 500 of the Standard Specifications for Public Works Construction (Greenbook), and shall include coordination of access, concurrent removal of unforeseen obstructions (payment for additional removals of valves, fittings, or other obstructions shall be per Bid Item No. 319), review of utility conflicts, and documentation of existing conditions as necessary to perform the subsequent work. This inspection is intended to assess the structural condition and identify any obstructions prior to rehabilitation. A video recording and suitable written log shall be produced and provided to the Owner for their records.

Bid Item No. 317B – CIPP Lining – Pipeline Cleaning (Hydro-Cleaning Method)

317B.01 Measurement

Measurement will be made on a linear foot (LF) basis along the centerline of the pipeline cleaned, as accepted by the Engineer.

317B.02 Payment

Payment will be made at the contract unit price per linear foot and shall constitute full compensation for all labor, materials, equipment, mobilization, remobilization(s), and incidentals required to clean the existing 14" pipeline using hydro-cleaning methods. Cleaning shall be performed to the extent necessary to prepare the pipeline for subsequent installation of CIPP lining. An alternative bid item is included for pipeline cleaning that requires mechanical and hydro-cleaning methods. All work shall be performed in accordance with Greenbook Section 500 and shall include debris removal and disposal.

Bid Item No. 317C - CIPP Lining - Pre-lining Inspection

317C.01 Measurement

Measurement will be made on a linear foot (LF) basis along the centerline of the pipeline inspected immediately prior to lining, as accepted by the Engineer.

317C.02 Payment

Payment will be made at the contract unit price per linear foot and shall constitute full compensation for all labor, materials, equipment, mobilization, remobilization(s), and incidentals required to perform a pre-lining closed-circuit television (CCTV) inspection. The work shall verify that the pipeline is clean, free of defects or obstructions, and ready for CIPP liner installation. Work shall comply with Greenbook Section 500. A video recording and suitable written log shall be produced and provided to the Owner for their records.

Bid Item No. 317D – CIPP Lining – Liner Installation

317D.01 Measurement

Measurement will be made on a linear foot (LF) basis of cured-in-place pipe (CIPP) liner installed, as accepted by the Engineer.

317D.02 Payment

Payment will be made at the contract unit price per linear foot and shall constitute full compensation for furnishing and installing a resin-impregnated tube liner, including inversion, curing (steam, hot water, or UV), mobilization, remobilization(s), and cooling per manufacturer's recommendations and ASTM F1216 or F1743. This item also includes end sealing, access

coordination, and quality control testing. All work shall comply with Greenbook Section 500.

Bid Item No. 316E – CIPP Lining – Reinstate Connection(s)

317E.01 Measurement

Measurement will be made on a per-each (EA) basis for each branch connection reinstated, as accepted by the Engineer.

317E.02 Payment

Payment will be made at the contract unit price per each and shall constitute full compensation for all labor, materials, and equipment necessary to locate and reinstate active branch connections using remote cutting technology. This item includes CCTV verification, proper edge shaping, and sealing where specified. All work shall comply with Greenbook Section 500.

Bid Item No. 317F – CIPP Lining – Post-Install Inspection

317F.01 Measurement

Measurement will be made on a linear foot (LF) basis of rehabilitated pipeline inspected after CIPP liner installation, as accepted by the Engineer.

317F.02 Payment

Payment will be made at the contract unit price per linear foot and shall constitute full compensation for all labor, materials, mobilization, remobilization(s), and equipment required to perform post-installation CCTV inspection in accordance with Greenbook Section 500. Work includes documentation of liner condition, quality verification, coordination with the Engineer, and final cleanup of the site. A video recording and suitable written log shall be produced and provided to the Owner for their records.

Bid Item No. 318– Install Concrete Utility Vault and Manhole with Flanged Cut-In Pipe Segment

318.01 Measurement

Measurement will be made on an each (EA) basis for the complete installation of the concrete utility vault(s) and associated work, as accepted by the Engineer.

318.02 Payment

Payment will be made at the contract each (EA) price and shall constitute full compensation for all labor, materials, equipment, and incidentals required to complete the work in accordance with the Contract Documents, including plan details, and applicable regulations or standards, including but not limited to:

- Furnishing and installing concrete utility vault(s) with specified dimensions, including access openings, pipe penetrations, supports, manhole frames, covers, and lids, and appurtenances.
- Cutting and installing the flanged pipe segment and air release ball valve as specified, including required gaskets, bolts, and accessories.
- Removing any existing valve(s) or fitting(s) that interfere with the work.
- Excavating, backfilling, and ensuring proper compaction around the vault structure.
- Coordinating amongst subcontractors to utilize vault structure(s) as rehabilitation access points for future CIPP work.
- Adjusting manhole structure(s) to finished grade post-paving, including necessary adjustments to frame, lid, and grade.
- Providing necessary traffic control, bypass pumping, and flow diversion measures.

• Cleaning and restoring the work area to pre-construction conditions.

No separate payment will be made for removal of valves/fittings, traffic control, bypass pumping, backfilling, compaction, manhole adjustments, or site restoration.

Bid Item No. 319 – Remove Existing Butterfly Valve and/or Fittings and Replace with 14" PVC C-900 DR-14 Pipe and Fittings

319.01 Measurement

Measurement will be made on an each (EA) basis for the complete removal, replacement, and all associated work, as accepted by the Engineer.

319.02 Payment

Payment will be made at the contract each (EA) price and shall constitute full compensation for all labor, materials, equipment, and incidentals required to complete the work in accordance with the Contract Documents and applicable regulations or standards, including but not limited to:

- Removing the existing butterfly valve and/or fittings as shown in the Contract Documents and identified in the field.
- Furnishing and installing 14" PVC C-900 DR-14 pipe and fittings to replace the existing valve/fittings in accordance the contract drawings
- Cutting and fitting pipe sections, including necessary gaskets, bolts, and accessories.
- Excavating and backfilling to expose and replace the valve/fittings, restoring the surrounding area to pre-construction conditions.
- Providing necessary traffic control during construction.
- Cleaning and restoring the work area to pre-construction conditions.

No separate payment will be made for excavation, backfilling, traffic control, site restoration.

Bid Item No. 320 – Remove Existing 12" Steel Pipeline and Replace with 14" PVC C-900 DR-14 Pipe

320.01 Measurement

Measurement will be on a linear foot (LF) basis along the centerline of the replaced pipeline, as accepted by the Engineer.

320.02 Payment

Payment will be made on a linear foot (LF) basis and will cover all labor, materials, equipment, and incidentals required to remove the existing 12" steel pipeline and install the 14" PVC C-900 DR-14 pipe, including but not limited to:

- Removal of the 12" steel pipeline, fittings, appurtenances, and connections.
- Furnishing and installing 14" PVC C-900 DR-14 pipe and fittings.
- Joining the PVC pipe to the steel pipe using approved PVC-to-steel sleeves and fittings.
- Determining the limits of pipeline removal as per the Contractor's evaluation and project requirements.
- Excavating, removing, and disposing of the steel pipeline in accordance with local regulations.
- Backfilling and restoring the trench and surrounding area to pre-construction conditions.
- Providing traffic control as required during construction.

No separate payment will be made for excavation, disposal, backfilling, traffic control, or site restoration. All costs are included in the unit price.

Bid Item No. 321 – Repair Trench and Restore Pavement

321.01 Measurement

Measurement will be made on a square foot (SF) basis, measured along the length and width of the trench repair area, as accepted by the Engineer.

321.02 Payment

Payment will be made on a square foot (SF) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required to repair the trench and restore the pavement, including but not limited to:

- Excavating, backfilling, and compacting the trench to the City of Yucaipa Trench Repair Standard Drawing 106-3.
- Replacing removed or damaged pavement, including asphalt concrete (AC) or concrete, as required.
- Restoring the surface to pre-construction conditions, ensuring the replacement AC thickness matches existing thickness plus 1 inch (4" maximum).
- Complying with traffic control and safety standards during construction.
- Providing necessary compaction, grading, or curing for durable pavement restoration.
- Coordinating with the City for required inspections, permits, or approvals.
- Providing dewatering, erosion control, or other temporary measures to protect the work area.
- Final surface restoration to match surrounding pavement grade and finish.

No separate payment will be made for excavation, backfilling, traffic control, dewatering, or site restoration. All costs are included in the unit price.

Bid Item No. 322 – Restore Existing Concrete in Like Kind

322.01 Measurement

Measurement will be made on a square foot (SF) basis, measured along the area of restored concrete, as accepted by the Engineer.

322.02 Payment

Payment will be made on a square foot (SF) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required to restore the existing concrete, including but not limited to:

- Removal and replacement of existing concrete to match thickness, texture, finish, color, and replacing up to the nearest joint.
- Restoring the concrete to the same grade, elevation, and configuration as the existing concrete.
- Providing a roundabout mix design and color per the City of Yucaipa's specifications to ensure uniformity.
- Using an approved concrete mix and applying required finish treatments for consistency.
- Curing and finishing the concrete in accordance with standard practices and City requirements.
- Coordinating with the City to ensure compliance with design and quality control standards.
- Backfilling and restoring disturbed areas adjacent to the concrete, including grading and compaction to match the surrounding environment.

The cost for matching the color shall be included in the unit price. If a noticeable color mismatch occurs, corrective work shall be performed as directed by the Engineer or City of Yucaipa inspector.

No additional payment will be made for excavation, backfilling, grading, surface restoration, or corrective

work. All costs are included in the unit price.

Bid Item No. 323 – Protect and Support Existing Underground Utility

323.01 Measurement

Measurement will be on a linear foot (LF) basis, measured along the length of the excavation trench where the utility is located, as accepted by the Engineer.

323.02 Payment

Payment will be made on a linear foot (LF) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required to protect and support the existing underground utility, including but not limited to:

- Coordinating with the utility owner prior to excavation to confirm protection measures.
- Implementing the utility owner's approved protection methods to keep the utility undisturbed.
- Providing temporary support for the utility, such as shoring or bracing, as needed during excavation.
- Protecting the utility from excavation equipment, vibration, and other disturbances.
- Monitoring the condition of the utility and adjusting protection measures as required by the utility owner or Engineer.
- Documenting any changes to protection measures, as directed by the utility owner or Engineer.
- Restoring disturbed areas and ensuring the utility is in operational condition.

The contractor is responsible for any utility damage caused by negligence, including inadequate protection or failure to follow specified methods. Necessary repairs will be at no additional cost to the owner.

No separate payment will be made for coordination, support measures, or restoration. All costs are included in the unit price.

Bid Item No. 324 - Cut and Remove Abandoned Pipeline

324.01 Measurement

Measurement will be on a linear foot (LF) basis, measured along the length of the abandoned pipeline that is cut and removed, as accepted by the Engineer.

324.02 Payment

Payment will be made on a linear foot (LF) basis and shall constitute full compensation for all labor, materials, equipment, and incidentals required to cut and remove the abandoned pipeline, including but not limited to:

- Coordinating with local utility companies to confirm the pipeline is abandoned and no longer in service.
- Cutting and removing the abandoned pipeline to the limits of the trench.
- Sealing the cut ends of the pipeline to prevent leakage or infiltration.
- Disposing of the removed pipeline in accordance with project specifications and local regulations.
- Ensuring the pipeline is completely removed, leaving no remnants or obstructions within the trench.
- Managing and disposing of any residual materials or debris, including necessary dewatering or cleaning prior to disposal.
- Coordinating with regulatory agencies or utilities for disposal or handling of the pipeline.

No separate payment will be made for cutting, removal, disposal, sealing, or coordination with utilities. All costs are included in the unit price.

SMWC Potable Waterline Plan

Bid Item No. 401 – Mobilization (SMWC Potable Waterline Plan)

401.01 Measurement

Measurement will be made on a lump sum (LS) basis. No separate measurement will be made for partial mobilization.

401.02 Payment

Payment will be made on a lump sum (LS) basis and shall constitute full compensation for all work and costs associated with mobilization and site preparation for the new potable waterline installation, including but not limited to:

- Moving personnel, equipment, and materials to and from the project site.
- Establishing staging areas, access routes, and laydown yards for waterline materials.
- Installing temporary facilities such as field offices, utilities, fencing, and sanitation services.
- Acquiring and delivering initial materials, supplies, and equipment for the waterline installation.
- Preparing and submitting required documents, including safety plans, utility coordination, agency notifications, and project-specific permitting.
- Coordinating with water purveyors, utility owners, and stakeholders specific to the project.
- Demobilization at the project's conclusion, including removal of temporary facilities and site restoration, unless otherwise covered by separate bid items.

No additional payment will be made for remobilization due to project phasing, delays, or rework unless specifically authorized by the Engineer.

Bid Item No. 402 – Testing, Hydrostatic Pressure Testing, Chlorination, and Water Quality Testing

402.01 Measurement

Measurement will be made on a lump sum (LS) basis. No separate measurement will be made for testing, chlorination, water quality support, or temporary components used to perform these activities.

402.02 Payment

Payment at the contract lump sum price includes full compensation for all labor, materials, equipment, and services necessary to test, disinfect, and support water quality certification of the waterline and appurtenances. This includes, but is not limited to:

- Preparing and submitting a testing and chlorination plan for approval by the Engineer and South Mesa Water Company.
- Performing hydrostatic pressure testing per AWWA C600 or applicable standards, at 1.5 times the maximum working pressure or 200 psi, whichever is greater, or as otherwise directed by South Mesa Water Company.
- Chlorinating the waterline in accordance with AWWA C651 and applicable regulations, including maintaining required chlorine concentration and flushing the system.
- Furnishing, installing, and removing all **temporary components** required for testing and disinfection, such as chlorination points, blow-offs, air release valves, and test bulkheads.
- Dechlorinating all discharge water in compliance with environmental regulations.
- Providing all labor, access, and fittings necessary to support water quality sampling by South

Mesa Water Company. The Contractor shall ensure that the system is ready and accessible for sampling, including proper flushing and pressure conditions.

- The Contractor shall be responsible for all costs associated with water quality testing, including retesting, as determined by South Mesa Water Company.
- Repairing any defects found during testing or disinfection, and performing retesting as needed.
- Submitting documentation of all test results, chlorination procedures, and corrective actions to the Engineer and South Mesa Water Company.

All associated costs, including temporary components, retesting, corrective work, coordination, and administrative efforts are included in this item. No separate payment will be made for failed tests or repeated efforts due to non-compliance.

Bid Item No. 403 – Join Existing Water Main

403.01 Measurement

Measurement will be made on an each (EA) basis. No separate measurement will be made for individual connection work.

403.02 Payment

Payment will be made on an each (EA) basis and shall constitute full compensation for all labor, materials, equipment, coordination, and services required to join the existing water main, including but not limited to:

- Cutting and connecting the new PVC DR14 pipe to the existing water main using appropriate sleeves, couplings, or fittings to ensure a secure, leak-proof connection.
- Excavating and preparing tie-in locations, including removal of existing fittings, valves, or debris.
- Coordinating with the Engineer and South Mesa Water Company to confirm tie-in locations and requirements.
- Performing pressure testing to verify the integrity of the connection per AWWA and project specifications.
- Backfilling and restoring the excavation area as specified.
- Providing temporary water services, if necessary, during the tie-in process.

All costs for excavation, connection, necessary fittings, and restoration are considered incidental. No separate payment will be made for additional work required due to unforeseen site conditions or delays.

Bid Item No. 404 – Install 8" PVC C-900 DR-14 Pipe, Bedding, and Backfill

404.01 Measurement

Measurement will be made on a linear foot (LF) basis, along the centerline of the installed pipe.

404.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and services, including but not limited to:

- Furnish and install 8" PVC C-900 DR-14 pipe, including jointing and alignment per AWWA C900.
- Provide and place bedding and backfill as specified in S.M.W.C. Standard W-16, including required compaction.
- Perform potholing to verify locations of existing utilities, and protect or work around any utilities, structures, or obstructions.
- Make watertight joints and conduct required pressure and leakage testing per the Contract

Documents.

No separate payment will be made for trench excavation, dewatering, shoring, compaction, or utility coordination. All such costs are included in the unit price for this item.

Bid Item No. 405 – Install 8" x 6" Reducer

405.01 Measurement

Measurement will be made on an each (EA) basis, with each reducer counted as one complete unit installed and accepted by the Engineer.

405.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services required to install the reducer, including but not limited to:

- Furnishing and installing the 8" x 6" reducer, ensuring proper alignment and jointing with the existing and new pipe.
- Making a watertight joint between the reducer and adjoining pipe sections.
- Pressure testing the reducer installation as required in the contract documents.
- Trench excavation, backfilling, and surface restoration.
- Coordination with utility owners to avoid interference with existing utilities during installation.

No separate payment will be made for excavation, backfilling, surface restoration, or temporary utility support. All such costs are included in the unit price for this item.

Bid Item No. 406 and 407 – Install 8" Elbows

406.01 Measurement

Measurement be made on an each (EA) basis, with each 8" elbow counted as one complete unit installed and accepted by the Engineer.

406.02 Payment

Payment for this item will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services required to install the elbows, including but not limited to:

- Furnishing and installing 8" elbows at the specified locations.
- Proper alignment and watertight joints between the elbows and adjoining pipe sections.
- Pressure testing of the elbows and adjacent pipe as required by the contract documents.
- Excavation, backfilling, and surface restoration related to the installation.
- Coordination with utility owners to avoid interference with existing utilities.

No separate payment will be made for excavation, backfilling, surface restoration, or temporary utility support. All such costs shall be included in the unit price for this item.

Bid Item No. 408 – Install 8" Gate Valve

408.01 Measurement

Measurement will be made on an **Each (EA)** basis, with each gate valve counted as one complete unit installed and accepted by the Engineer.

408.02 Payment

Payment will be made at the contract unit price per **Each (EA)** and shall constitute full compensation for all labor, materials, equipment, and services required to furnish and install the gate valve and complete the work in accordance with the Contract Documents and South Mesa Water Company standards, including but not limited to the following:

- Furnishing and installing an 8" gate valve and valve box in accordance with S.M.W.C. Standard Drawings W-9 and W-11.
- Connecting the valve to adjoining pipe sections using approved mechanical joint or restrained joint fittings as required.
- Installing thrust restraint and appurtenances as shown in the standard drawings and contract documents.
- Providing valve box and cover, centered over the operating nut. The valve can and lid shall be reset to finished grade after all grading and paving operations are completed.
- Ensuring the valve is fully operational, leak-free, and accessible for operation.
- Coordination with adjacent utility installations.
- Excavation, backfilling, and surface restoration related to the valve installation.
- Performing testing to verify valve function and compliance with applicable standards.

No separate payment will be made for fittings, valve boxes, joint restraints, excavation, backfilling, resetting to grade, or surface restoration. All such costs shall be included in the unit price for this item.

Bid Item No. 409 – Install 1" Air-Vacuum Valve Assembly

409.01 Measurement

Measurement will be made on a Lump Sum (LS) basis, with no separate measurement for individual components, labor, or coordination.

409.02 Payment

Payment will be made at the contract lump sum price and shall constitute full compensation for all labor, materials, equipment, and services necessary to complete the installation in accordance with the Contract Documents and South Mesa Water Company standards, including but not limited to:

- Furnishing and installing a complete 1" air-vacuum valve assembly, including service saddle, corporation stop, riser pipe, and protective enclosure, in compliance with S.M.W.C. Standard Drawing W-8A.
- Tapping the main and securing the assembly with the specified service saddle.
- Installing riser piping to grade and placing the appropriate surface cover or enclosure as shown in the plans.
- Ensuring proper installation alignment, accessibility, and utility requirements.
- Performing pressure testing to confirm the integrity of the connection to the main.
- Excavation, bedding, backfill, compaction, and surface restoration as required.
- Re-setting the enclosure to finished grade after final grading and paving.
- Coordinating with the Engineer and utility representatives to ensure conformance.

No additional payment will be made for incidental work or adjustments due to field conditions. All costs for materials, tapping, installation, surface restoration, and coordination shall be included in the lump sum price for this item.

Bid Item No. 410 – Install Pipe Barricade

410.01 Measurement

Measurement will be made on an each (EA) basis, with one unit of measurement for each barricade

installed and accepted.

410.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services necessary to furnish and install the pipe barricade in accordance with the Contract Documents and S.M.W.C. Standard W-12, including but not limited to:

- Furnishing and installing the pipe barricade in compliance with S.M.W.C. Standard W-12, including all steel pipe materials, concrete footings, and required connections.
- Excavation, placement, and backfill for concrete footings as detailed in the standard.
- Setting barricade components to the specified height, alignment, and spacing.
- Providing coatings, painting, and finishes as required by S.M.W.C. Standard W-12 or shown on the plans.
- Performing all work in compliance with S.M.W.C. Standard W-12 and applicable industry standards.

No separate payment will be made for excavation, backfill, concrete work, surface preparation, painting, or other incidental work. All such costs shall be included in the unit price for this item.

Bid Item No. 411 – Install Thrust Block

411.01 Measurement

Measurement will be made on an each (EA) basis, with one unit of measurement for each thrust block installed and accepted.

411.02 Payment

Payment will be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services necessary to furnish and install the thrust block in accordance with the Contract Documents and S.M.W.C. Standard W-17, including but not limited to:

- Sizing and installing the thrust block in accordance with S.M.W.C. Standard W-17, including all materials, forms, and concrete.
- Sizing the thrust block to meet the specified volume and bearing area requirements to accommodate the forces exerted on the pipe, subject to review and approval by the design engineer.
- Excavating the required area to provide proper clearance and support for the pipe.
- Placing concrete to ensure the thrust block is poured at the correct location and dimensions as specified in the standard.
- Ensuring the thrust block is fully cured and properly supported during installation.
- Backfilling the excavation and restoring the surface to its original condition or as specified by the Engineer.

No separate payment will be made for excavation, backfill, concrete work, or other incidental work. All such costs shall be included in the unit price for this item.

Bid Item No. 412 – Abandon Existing Watermain in Place

412.01 Measurement

Measurement will be made on a lump sum (LS) basis. No separate measurement will be made for the individual tasks related to abandonment.

412.02 Payment

Payment will be made at the contract lump sum price and shall constitute full compensation for all labor,

materials, equipment, and services necessary to abandon the watermain in place in accordance with the Contract Documents, S.M.W.C. standards, Greenbook Standard Specifications, and the project grading plan, including but not limited to:

- Coordinating with the project grading plan to ensure proper alignment with abandonment work, including any required cut and removal activities.
- Cutting and removing the watermain at specified locations as shown on the plans or as directed by the Engineer.
- Capping or plugging the pipe ends at both ends of the abandoned section to prevent ingress of water or debris, in accordance with S.M.W.C. standards.
- Filling the abandoned pipeline with an appropriate material (e.g., concrete grout) to prevent collapse and maintain stability.
- Removing valves, fittings, and appurtenances, unless otherwise directed by the Engineer.
- Backfilling the trench and restoring the surface to its original or required condition, including any pavement, concrete, or landscaping disturbed during abandonment.
- Coordinating with the grading contractor to ensure all abandonment work is completed in sync with grading activities and does not conflict with other operations.
- Ensuring the abandoned sections are left in a safe, stable condition, compliant with S.M.W.C. standards and Greenbook Standard Specifications.

No separate payment will be made for excavation, backfill, capping, sealing, or surface restoration related to abandonment. Any unforeseen work due to site conditions will be considered incidental and included in the lump sum price for this item.

Street Improvement Plan

Bid Item No. 501 – Mobilization

501.01 Measurement

Measurement will be made on a lump sum (LS) basis. No separate measurement will be made for individual mobilization activities.

501.02 Payment

Payment will be made at the contract lump sum price and shall constitute full compensation for all labor, materials, equipment, services, and incidentals necessary to mobilize the Contractor's forces, equipment, and materials to the project site and establish the necessary facilities for construction, including but not limited to:

- Mobilizing equipment, labor, and materials to the site, including temporary fencing, office trailers, equipment, and tools.
- Establishing Contractor's facilities, including temporary utilities, storage areas, and site offices as required by the project.
- Coordinating with the Engineer and other contractors to ensure mobilization activities are completed without delaying the overall schedule.
- Providing necessary bonds, insurance, and permits required to commence work.
- Setting up initial project safety measures, including signage, safety fencing, and other protective measures for workers and the public.
- Demobilizing equipment and materials at the end of the project, including removal of temporary facilities and restoration of the site to a condition acceptable to the Owner.

No separate payment will be made for site office installation, temporary utilities, storage, permits, bonds, or demobilization. All such costs shall be considered incidental to this item.

Bid Item No. 502 - Cold Plane Pavement 1.5"

502.01 Measurement

Measurement will be made on a square foot (SF) basis, as shown on the plans, with a cold plane milling depth of 1.5" feet applied to the specified limits.

502.02 Payment

Payment will be made at the contract unit price per square foot (SF) for this item, covering all labor, materials, equipment, and services required to cold plane the pavement, including but not limited to:

- Cold plane to a depth of 1.5" feet as specified.
- Proper disposal of milled material.
- Coordination to minimize disruption with other construction activities.
- Restoration of the work area to a safe and stable condition if required.

No separate payment will be made for milling, disposal, equipment, or incidental work. All costs are included in the unit price.

Bid Item No. 503 – Sawcut and Remove Existing Asphalt, Base, and Subgrade (7" Depth)

503.01 Measurement

Measurement will be made on a square foot (SF) basis, as shown on the plans for the sawcut and removal of existing asphalt, base, and subgrade to a maximum 7" depth.

503.02 Payment

Payment will be made at the contract unit price per square foot (SF) for this item, covering all labor, materials, equipment, and services necessary to sawcut and remove asphalt, base, and subgrade, including but not limited to:

- Sawcutting the existing asphalt to provide clean edges for removal and future installation.
- Removal and disposal of asphalt, base, and subgrade per applicable regulations.
- Coordination to minimize disruption to adjacent work areas.
- Restoration of disturbed areas to a safe, stable condition, if required.

No separate payment will be made for disposal, equipment usage, or incidental work. All costs are included in the unit price.

Bid Item No. 504 – Sawcut and Remove Existing Asphalt, Base, and Subgrade (Variable Depth)

503.01 Measurement

Measurement will be made on a square foot (SF) basis, as shown on the plans for the sawcut and removal of existing asphalt, base, and subgrade to a depth necessary to achieve proposed pavement section elevations.

503.02 Payment

Payment will be made at the contract unit price per square foot (SF) for this item, covering all labor, materials, equipment, and services necessary to sawcut and remove asphalt, base, and subgrade, including but not limited to:

- Sawcutting the existing asphalt to provide clean edges for removal and future installation.
- Removal and disposal of asphalt, base, and subgrade per applicable regulations.
- Coordination to minimize disruption to adjacent work areas.

• Restoration of disturbed areas to a safe, stable condition, if required.

No separate payment will be made for disposal, equipment usage, or incidental work. All costs are included in the unit price.

Bid Item No. 505 – Remove Existing AC Berm

505.01 Measurement

Measurement will be made on a linear foot (LF) basis, measured along the edge of the removed AC berm as shown on the plans.

505.02 Payment

Payment will be made at the contract unit price per linear foot (LF) for this item, covering all labor, materials, equipment, and services necessary to remove the AC berm, including but not limited to:

- Removal of the AC berm as shown on the plans.
- Proper disposal of removed material.
- Restoration of disturbed areas to a safe and stable condition.
- Coordination with other construction activities to minimize disruption.

No separate payment will be made for disposal, equipment, or incidental work. All costs are included in the unit price.

Bid Item No. 506 – Remove & Replace Concrete Driveway to Match Existing

506.01 Measurement

Measurement will be made on a square foot (SF) basis for the area of driveway removed and replaced.

506.02 Payment

Payment will be made at the contract unit price per square foot (SF) and will cover all costs for removing the existing driveway, preparing the subgrade, and installing the new driveway per the Contract Documents, including but not limited to:

- Removal and disposal of the existing driveway.
- Excavation and subgrade preparation for proper compaction and grading.
- Furnishing and placing new concrete, matching the existing material, thickness, and slope (2%-10% minimum).
- Restoration of disturbed areas.
- Coordination with property owners to maintain access.
- Coordination with the City inspector for compliance with regulations.
- Concrete testing for quality control.

No separate payment will be made for excavation, subgrade prep, disposal, or other incidental work. All such costs are included in the unit price.

Bid Item No. 507 and 508 - Construct 3" A.C. Pavement Over 4" Miscellaneous Aggregate Base

507.01 Measurement

Measurement will be made on a ton basis, based on the actual weight of the asphalt concrete (A.C.) pavement and aggregate base (A.B.) material placed and accepted. The weight will be determined by the weight tickets from the asphalt supplier or other methods acceptable to the Engineer.

507.02 Payment

Payment will be made at the contract unit price per ton and shall constitute full compensation for all labor, materials, equipment, and services necessary to complete the asphalt concrete pavement and base construction in accordance with the Contract Documents, soils engineer recommendations, applicable standards, and the regulations of the City of Calimesa, including but not limited to:

- Excavating and preparing the subgrade to the specified depth and elevation as outlined by the Engineer and the City of Calimesa.
- Furnishing and placing 4" minimum miscellaneous aggregate base material, compacted to the specified density as per the Contract Documents and applicable standards.
- Furnishing and placing 3" minimum asphalt concrete (A.C.) pavement over the prepared base, ensuring proper compaction and finishing in accordance with the Contract Documents.
- Complying with the soils engineer's recommendations or City of Calimesa to ensure the pavement structure meets site-specific conditions for load-bearing and drainage.
- Constructing joints, where required, to properly align and connect with existing pavement sections.
- Conducting quality control to ensure the base material and asphalt pavement meet the specified requirements for thickness, density, and compaction.
- Grading the surface to ensure the finished pavement meets the required crown, elevation, and smoothness.
- Ensuring compliance with all City of Calimesa regulations and coordinating with the City's inspector to obtain final approval.

No separate payment will be made for subgrade preparation, compaction, jointing, or testing of materials. All such costs shall be included in the unit price for this item.

Bid Item No. 509 and 510 – Construct 3" Minimum A.C. Pavement Over 6" Minimum Class II Base

509.01 Measurement

Measurement will be made on a ton basis, based on the actual weight of the asphalt concrete (A.C.) pavement and aggregate base (A.B.) material placed and accepted. The weight will be determined by the weight tickets from the asphalt supplier or other methods acceptable to the Engineer.

509.02 Payment

Payment will be made at the contract unit price per ton and shall constitute full compensation for all labor, materials, equipment, and services necessary to complete the asphalt concrete pavement and base construction in accordance with the Contract Documents, soils engineer recommendations, applicable standards, and the regulations of the City of Calimesa, including but not limited to:

- Excavating and preparing the subgrade to the specified depth and elevation as outlined by the Engineer and the soils report.
- Furnishing and placing 6" minimum Class II base material, compacted to the specified density as per the Contract Documents and applicable standards.
- Furnishing and placing 3" minimum asphalt concrete (A.C.) pavement over the prepared base, ensuring proper compaction and finishing in accordance with the Contract Documents.
- Complying with the soils engineer's recommendations to ensure the pavement structure meets site-specific conditions for load-bearing and drainage.
- Constructing joints, where required, to properly align and connect with existing pavement sections.
- Conducting quality control to ensure the base material and asphalt pavement meet the specified requirements for thickness, density, and compaction.

- Grading the surface to ensure the finished pavement meets the required crown, elevation, and smoothness.
- Ensuring compliance with all City of Calimesa regulations and coordinating with the City's inspector to obtain final approval.

No separate payment will be made for subgrade preparation, compaction, jointing, or testing of materials. All such costs shall be included in the unit price for this item.

Bid Item No. 511 - Construct 5" Minimum A.C. Pavement Over Compacted Native Soil

511.01 Measurement

Measurement will be made on a ton basis, based on the actual weight of the asphalt concrete (A.C.) pavement material placed and accepted. The weight will be determined by the weight tickets from the asphalt supplier or other methods acceptable to the Engineer.

511.02 Payment

Payment will be made at the contract unit price per ton and shall constitute full compensation for all labor, materials, equipment, and services necessary to complete the asphalt concrete pavement construction over compacted native soil in accordance with the Contract Documents, the recommendations of the soils engineer, applicable standards, and the regulations of the City of Calimesa, including but not limited to:

- Excavating and preparing the native soil subgrade to the proper depth and elevation as specified by the Engineer and the soils report.
- Furnishing and placing 5" minimum asphalt concrete (A.C.) pavement over the compacted native soil, ensuring the base is compacted per the soils engineer recommendations.
- Conducting quality control to ensure the base material and asphalt pavement meet the specified requirements for thickness, density, and compaction.
- Constructing joints, where required, to properly align and connect with existing pavement sections.
- Grading the surface to ensure the finished pavement meets the required crown, elevation, and smoothness.
- Ensuring compliance with all City of Calimesa regulations and coordinating with the City's inspector to obtain final approval.

No separate payment will be made for subgrade preparation, compaction, jointing, or testing of materials. All such costs shall be included in the unit price for this item.

Bid Item No. 512 – Overlay Pavement 1.5"

512.01 Measurement

Measurement will be made on a per ton basis, based on the weight of the asphalt used for the overlay.

512.02 Payment

Payment will be made at the contract unit price per ton for this item, covering all labor, materials, equipment, and services required to complete the asphalt overlay, including but not limited to:

- Furnishing and applying asphalt to achieve a 1.5" thickness, as shown on the plans.
- Ensuring proper compaction, smooth finish, and compliance with durability specifications.
- Coordination with the Engineer to confirm thickness and material quality.
- All work related to mixing, hauling, and applying the overlay.

No separate payment will be made for equipment, labor, or incidental work. All costs are included in the unit price.

Bid Item No. 513 – Overlay Pavement Variable Thickness (1.5" min.)

513.01 Measurement

Measurement will be made on a per ton basis, based on the weight of the asphalt used for the overlay.

513.02 Payment

Payment will be made at the contract unit price per ton for this item, covering all labor, materials, equipment, and services required to complete the asphalt overlay, including but not limited to:

- Furnishing and applying asphalt to achieve a minimum 1.5" thickness as required to achieve new profile elevations, as shown on the plans.
- Ensuring proper compaction, smooth finish, and compliance with durability specifications.
- Coordination with the Engineer to confirm thickness and material quality.
- All work related to mixing, hauling, and applying the overlay.

No separate payment will be made for equipment, labor, or incidental work. All costs are included in the unit price.

Bid Item No. 514 - Construct 6" Traversable Dike

514.01 Measurement

Measurement will be made on a linear foot (LF) basis, measured along the centerline of the constructed 6" traversable dike.

514.02 Payment

Payment will be made at the contract unit price per linear foot (LF) and will cover all labor, materials, equipment, and services to complete the work per the Contract Documents, including but not limited to:

- Excavation and subgrade preparation.
- Furnishing and placing fill material, compacted to the required density and shaped to specifications.
- Transitioning to the existing berm and proposed curb as shown on the plans.
- Shaping, compacting, and finishing the dike to meet the required slope, width, and grade.
- Erosion control measures during construction to protect the dike and surrounding areas.
- Coordination with the City inspector to ensure compliance with City of Calimesa standards.
- Restoration of disturbed areas to original or required condition.

No separate payment will be made for excavation, shaping, compaction, transitions, or other incidental work. All such costs are included in the unit price.

Bid Item No. 515 – Construct 6" Asphalt Dike

515.01 Measurement

Measurement will be made on a linear foot (LF) basis, along the centerline of the constructed 6" asphalt dike.

515.02 Payment

Payment will be made at the contract unit price per linear foot (LF) for "Construct 6" Asphalt Dike" and will cover all labor, materials, equipment, and services to complete the work per the Contract Documents, including but not limited to:

- Excavation and subgrade preparation for the 6" asphalt dike.
- Furnishing and placing 6" asphalt material, per Riverside County Standard 212.
- Shaping, compacting, and finishing the dike to the specified dimensions for a smooth, traversable

surface.

- Transitioning to existing berm and proposed curb as shown in the plans.
- Coordination with the City inspector to ensure compliance with City of Calimesa and Riverside County standards.
- Restoration of disturbed areas.
- Testing and quality control for asphalt material to meet required specifications.

No separate payment will be made for excavation, shaping, compaction, transitions, or other incidental work. All such costs are included in the unit price.

Bid Item No. 516 – Construct Type A-8 Curb & Gutter

516.01 Measurement

Measurement will be made on a linear foot (LF) basis, based on the actual length of completed and accepted curb and gutter.

516.02 Payment

Payment will be made at the contract unit price per linear foot (LF) for "Construct Type A-8 Curb & Gutter" and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including but not limited to:

- Excavation and preparation of subgrade.
- Furnishing and placing Type A-8 curb and gutter per Riverside County Standard Drawings 201 & 205.
- Formwork, concrete placement, finishing, and curing per City of Calimesa standards.
- Joint construction, including expansion joints at specified locations.
- Coordination with the City inspector for approval and compliance with applicable regulations.

No separate payment will be made for subgrade preparation, excavation, formwork, jointing, curing, or other incidental work. All such costs are included in the unit price.

Bid Item No. 517 – Construct Type A-6 Curb & Gutter

517.01 Measurement

Measurement will be made on a linear foot (LF) basis, based on the actual length of completed and accepted curb and gutter.

517.02 Payment

Payment will be made at the contract unit price per linear foot (LF) for "Construct Type A-6 Curb & Gutter" and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the work, including but not limited to:

- Excavation and preparation of subgrade.
- Furnishing and placing Type A-6 curb and gutter in accordance with Riverside County Standard Drawings 201 & 205.
- Formwork, concrete placement, finishing, and curing per City of Calimesa standards.
- Joint construction, including expansion joints at specified locations.
- Inspection, testing, and coordination with the City inspector to ensure compliance with project specifications and regulations.

No separate payment will be made for subgrade preparation, excavation, formwork, jointing, curing, or other incidental work. All such costs are included in the unit price.

Bid Item No. 518 – Construct Commercial Drive Approach

518.01 Measurement

Measurement will be made on an each (EA) basis for the entire commercial drive approach constructed and accepted by the Engineer.

518.02 Payment

Payment will be made at the contract each (EA) price and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the work in accordance with the Contract Documents, Riverside County Standard Drawing 207A (modified for 4' sidewalk), and City of Calimesa standards, including but not limited to:

- Excavation and subgrade preparation for the approach and sidewalk, ensuring proper slope, compaction, and alignment.
- Furnishing and placing concrete for the commercial drive approach and modified 4' sidewalk, with reinforcement as required.
- Constructing the approach and sidewalk to the specified dimensions, including jointing, grading, and finishing for a smooth surface.
- Providing and placing base material beneath the concrete for proper compaction.
- Curing and protecting the concrete to ensure durability.
- Restoration of disturbed areas to original or required condition.
- Coordination with the City inspector to ensure compliance and approval.

No separate payment will be made for excavation, base material, compaction, jointing, finishing, or other incidental work. All such costs are included in the lump sum price.

Bid Item No. 519 – Construct Residential Drive Approach

519.01 Measurement

Measurement will be made on an each (EA) basis for the entire residential drive approach constructed and accepted by the Engineer.

519.02 Payment

Payment will be made at the contract each (EA) price and shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the work in accordance with the Contract Documents, Riverside County Standard Drawing 213 (modified for 4' sidewalk), and City of Calimesa standards, including but not limited to:

- Excavation and subgrade preparation for the approach and sidewalk, ensuring proper slope, compaction, and alignment.
- Furnishing and placing concrete for the approach and modified 4' sidewalk, with reinforcement as required.
- Constructing the approach to the specified dimensions, including jointing, grading, and finishing for a smooth surface.
- Providing and placing base material beneath the concrete for proper compaction.
- Curing and protecting the concrete to ensure durability.
- Restoration of disturbed areas to original or required condition.
- Coordination with the City inspector for compliance and approval.

No separate payment will be made for excavation, base material, compaction, jointing, finishing, or other incidental work. All such costs are included in the lump sum price.

Bid Item No. 520 – Construct Concrete Sidewalk Adjacent to Curb

520.01 Measurement

Measurement will be made on a square foot (SF) basis, measured along the area of the constructed sidewalk.

520.02 Payment

Payment will be made at the contract unit price per square foot (SF) for "Construct Concrete Sidewalk Adjacent to Curb" and will cover all labor, materials, equipment, and services to complete the work per the Contract Documents, including but not limited to:

- Excavation and preparation of the subgrade for sidewalk installation.
- Furnishing and placing concrete, reinforcement, and expansion joints in accordance with Riverside County Standard 401.
- Placing and finishing the sidewalk to the specified slope, elevation, and finish.
- Coordination with the City inspector for compliance with City of Calimesa standards and Riverside County Standard 401.
- Restoration of disturbed areas.
- Testing and quality control for the concrete to meet required specifications.

No separate payment will be made for excavation, subgrade preparation, or finishing. All such costs are included in the unit price.

Bid Item No. 521 – Transition from 8" Curb Face to Existing 10" Curb Face

521.01 Measurement

Measurement will be on an each (EA) basis, covering all work for transitioning the curb from 8" to 10" as accepted by the Engineer.

521.02 Payment

Payment will be made at the each (EA) price for this item, covering all labor, materials, equipment, and services to complete the transition, including but not limited to:

- Excavation and preparation of the existing curb for transition.
- Furnishing and placing materials (concrete, filler, reinforcement) for a smooth, secure transition.
- Adjusting curb line and profile to match the 10" curb face.
- Coordination with the City inspector for compliance with City of Calimesa standards.
- Restoration of disturbed areas after completion.

No separate payment will be made for additional protective measures, coordination, incidentals, or damage resulting from negligence. All such costs are included in the unit price.

Bid Item No. 522 – Protect in Place Existing Power Pole

522.01 Measurement

Measurement will be made on an each (EA) basis covering all work required to protect the existing power pole as shown on the plans and directed by the Engineer.

522.02 Payment

Payment will be made at the contract each (EA) price covering all labor, materials, equipment, and services required, including but not limited to:

- Identifying and marking the power pole location, including foundations, guy wires, and other associated components.
- Providing physical protection (e.g., barriers, fencing) around the pole during construction.
- Coordinating with the utility company to meet protection requirements.
- Monitoring and ensuring the protection measures remain effective.

• Taking corrective action if any damage or risk to the pole is identified.

No separate payment will be made for additional protective measures, coordination, incidentals, or damage resulting from negligence. All such costs are included in the unit price.

Bid Item No. 523 – Protect in Place Existing Valve

523.01 Measurement

Measurement will be made on an each (EA) basis covering all work required to protect the existing valve as shown on the plans and directed by the Engineer.

523.02 Payment

Payment will be made at the contract each (EA) price covering all labor, materials, equipment, and services required, including but not limited to:

- Identifying and marking the valve, including valve lids, valve cans, and other associated components
- Providing physical protection (e.g., barriers, fencing) around the pole during construction.
- Coordinating with the utility company to meet protection requirements.
- Monitoring and ensuring the protection measures remain effective.
- Taking corrective action if any damage or risk to the pole is identified.

No separate payment will be made for additional protective measures, coordination, incidentals, or damage resulting from negligence. All such costs are included in the unit price.

Bid Item No. 524 – Protect in Place Existing Manhole

524.01 Measurement

Measurement will be made on an each (EA) basis covering all work required to protect the existing manhole as shown on the plans and directed by the Engineer.

524.02 Payment

Payment will be made at the contract each (EA) price covering all labor, materials, equipment, and services required, including but not limited to:

- Identifying and marking the manhole, including manhole lids, foundations, grade rings, and other associated components.
- Providing physical protection (e.g., barriers, fencing) around the pole during construction.
- Coordinating with the utility company to meet protection requirements.
- Monitoring and ensuring the protection measures remain effective.
- Taking corrective action if any damage or risk to the pole is identified.

No separate payment will be made for additional protective measures, coordination, incidentals, or damage resulting from negligence. All such costs are included in the unit price.

Bid Item No. 525 – Adjust Valve to Grade

525.01 Measurement

Measurement shall be made on a each (EA) basis, with one unit of measurement for each valve adjusted to the required grade, as shown on the plans or as directed by the Engineer.

525.02 Payment

Payment for this item shall be made at the each (EA) contract unit price and shall constitute full compensation for all labor, materials, equipment, and services necessary to adjust the valve to the

specified grade in accordance with the Contract Documents and applicable standards, including but not limited to the following:

- Removing and disposing of the existing valve box cover or any other necessary components.
- Adjusting the valve box or assembly to the required grade, including the installation of appropriate risers or other materials to achieve the correct elevation.
- Replacing the valve box cover and ensuring the valve is accessible and properly secured at the final grade per SMWC Standards.
- Ensuring that the adjusted valve remains fully operational and accessible for future maintenance.
- Coordinating with the City or local authority to confirm that the final grade meets all applicable standards and regulations.
- Restoring the surrounding area to its original or specified condition after the adjustment.
- All protection requirements pursuant to Bid Item No. 520.

No separate payment will be made for excavation, backfill, dewatering, or any other incidental work required to adjust the valve to grade. All such costs shall be included in the unit price for this item.

Bid Item No. 526 - Adjust Sewer Manhole to Grade

526.01 Measurement

Measurement shall be made on an each (EA) basis, with one unit of measurement for each manhole adjusted to the required grade, as shown on the plans or as directed by the Engineer.

526.02 Payment

Payment for this item shall be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services necessary to adjust the sewer manhole to the specified grade in accordance with the Contract Documents and applicable standards, including but not limited to the following:

- Removing and disposing of the existing manhole frame and cover, as necessary.
- Adjusting the manhole to the required grade, including the installation of appropriate risers or other materials to achieve the correct elevation.
- Replacing the manhole frame and cover to the final grade per YVWD Standard Drawing S-5.
- Ensuring that the manhole is structurally sound and provides a smooth, safe surface at the adjusted grade.
- Coordinating with the City or local authority to confirm that the final grade meets all applicable standards and regulations.
- Performing any additional work necessary to restore the area around the manhole to a safe and stable condition.
- All protection requirements pursuant to Bid Item No. 521.

No separate payment will be made for excavation, backfill, dewatering, or any other incidental work required to adjust the sewer manhole to grade. All such costs shall be included in the unit price for this item.

Bid Item No. 527 – Adjust Existing Fire Hydrant

527.01 Measurement

Measurement shall be made on an each (EA) basis, with one unit of measurement for each hydrant adjusted to grade, as shown on the plans or as directed by the Engineer.

527.02 Payment

Payment for this item shall be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services necessary to adjust the existing hydrant to grade in accordance with the Contract Documents and South Mesa Water Company (SMWC) standards, including but not limited to the following:

- Excavating around the hydrant as necessary to expose the hydrant and its connections.
- Adjusting the hydrant to the specified grade, ensuring the hydrant barrel is plumb and the nozzle height meets the required specifications.
- Reinstalling or replacing any necessary fittings, gaskets, or seals to ensure the hydrant is watertight.
- Backfilling and compacting around the hydrant to restore the area to its original condition or as specified by the Engineer.
- Restoring any disturbed pavement, sidewalk, or landscaping to match existing conditions or as directed by the Engineer.
- Ensuring compliance with SMWC standards for hydrant adjustment.
- Protection of the existing hydrant throughout construction.

No separate payment will be made for excavation, backfilling, compaction, restoration of surfaces, or any other incidental work required to complete the hydrant adjustment. All such costs shall be included in the unit price for this item.

Bid Item No. 528 – Relocate Existing Mailbox

528.01 Measurement

Measurement shall be made on an each (EA) basis, with one unit of measurement for each mailbox relocated, as shown on the plans or as directed by the owner.

528.02 Payment

Payment for this item shall be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services necessary to relocate the mailbox in accordance with the Contract Documents and any directions provided by the owner, including but not limited to the following:

- Carefully removing and relocating the existing mailbox to the new location as shown on the plans or as directed by the owner.
- Reinstalling the mailbox, including the necessary foundation or support structure to ensure the mailbox is securely mounted and stable.
- Ensuring that the relocation of the mailbox does not interfere with traffic, pedestrian, or utility access.
- Restoration of any disturbed areas in compliance with the specifications.
- Coordination with the owner to confirm the final location and compliance with local standards or regulations.

No separate payment will be made for any incidental work related to coordination, site preparation, or restoration. All such costs shall be included in the unit price for this item.

Bid Item No. 529 – Remove and Replace Existing Street Sign

529.01 Measurement

Measurement shall be made on an each (EA) basis, with one unit of measurement for each street sign removed and replaced, as shown on the plans or as directed by the City of Calimesa.

529.02 Payment

Payment for this item shall be made at the contract unit price per each (EA) and shall constitute full compensation for all labor, materials, equipment, and services necessary to remove the existing street sign and replace it in accordance with the Contract Documents and City of Calimesa standards, including but not limited to the following:

- Removing the existing street sign, including any necessary posts, brackets, or attachments, unless the existing sign is deemed reusable by the City of Calimesa.
- If the existing sign is reusable, it shall be carefully removed, stored, and reinstalled in accordance with City of Calimesa approval and requirements, ensuring no damage occurs during the removal or reinstallation process.
- If the existing sign is not reusable or is damaged during removal, the contractor shall furnish and install a new street sign, including post, bracket, and any required hardware.
- Ensuring that the new or reused sign meets City of Calimesa standards for placement, size, and visibility.
- Coordinating with the City of Calimesa for sign placement and specifications, if necessary.
- Restoring disturbed areas and ensuring the sign is securely mounted and installed in accordance with safety and regulatory requirements.

No separate payment will be made for any incidental work related to the removal, storage, installation, or coordination of street signs. All such costs shall be included in the unit price for this item.

Bid Item No. 530 – Install Channelizers at 12' O.C.

530.01 Measurement

Measurement will be made on an each (EA) basis, with one unit counted for each channelizer installed and accepted.

530.02 Payment

Payment will be made at the contract unit price per each (EA) covering all labor, materials, equipment, and services required, including but not limited to:

- Furnishing and installing channelizers at 12' on-center spacing, per Caltrans Standard A73C.
- Ensuring proper alignment, elevation, and placement in accordance with the plans and Caltrans requirements.
- Excavating and preparing the foundation for secure installation.
- Backfilling and compacting to restore the site as needed.
- Coordination with the Engineer to ensure compliance with plan details and Caltrans standards.

No separate payment will be made for excavation, backfill, equipment, or incidental work. All costs are included in the unit price.

Bid Item No. 531 – Install Type N-2(CA) Object Marker Sign

531.01 Measurement

Measurement will be made on a per each (EA) basis, with one unit counted for each marker sign installed and accepted.

531.02 Payment

Payment will be made at the contract unit price per each (EA) covering all labor, materials, equipment, and services required, including but limited to:

• Furnishing and installing the Type N-2(CA) object marker sign, including sign post, hardware,

and components per Caltrans Standard A73B.

- Installing the sign at the specified location, ensuring proper alignment, mounting, and security.
- Excavation, backfilling, and compaction for sign post installation.
- Surface preparation, painting, and finishes as required by standards.
- Coordination with the Engineer to ensure compliance with specifications.

No separate payment will be made for excavation, backfill, or other incidental work. All costs are included in the unit price.

Bid Item No. 532 – Paint Right Edge Line

532.01 Measurement

Measurement shall be made on a linear foot (LF) basis, measured along the centerline of the edge line as shown on the plans.

532.02 Payment

Payment for this item shall be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and services necessary to apply the paint in accordance with the Contract Documents and Caltrans standards, including but not limited to the following:

- Furnishing and applying 6" wide right edge line paint in accordance with Caltrans Standard A20B, Detail 27B.
- Preparing the surface as necessary to ensure proper adhesion of the paint (including cleaning and/or surface preparation).
- Application of paint in the required thickness and in accordance with Caltrans specifications for highway and road markings.
- Ensuring proper alignment, uniformity, and quality of the edge line application.
- Coordinating with the Engineer or City inspector to ensure the paint application meets all standards for road safety and visibility.

No separate payment will be made for surface preparation, masking, or any other incidental work required to complete the paint application. All such costs shall be included in the unit price for this item.

Bid Item No. 533 – Apply Stop Line with Temporary Traffic Paint

533.01 Measurement

Measurement shall be made on a linear foot (LF) basis, measured along the centerline of the stop line as shown on the plans.

533.02 Payment

Payment for this item shall be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and services necessary to apply the paint in accordance with the Contract Documents and Caltrans standards, including but not limited to the following:

- Furnishing and applying the stop line with temporary traffic paint in accordance with Caltrans Standard A24G.
- Preparing the surface as necessary to ensure proper adhesion of the paint (including cleaning and/or surface preparation).
- Ensuring proper alignment, uniformity, and quality of the edge line application.
- Coordinating with the Engineer or City inspector to ensure the paint application meets all standards for road safety and visibility.

No separate payment will be made for surface preparation, masking, or any other incidental work required to complete the paint application. All such costs shall be included in the unit price for this item.

Bid Item No. 534 – Apply Pavement Legend with Temporary Traffic Paint

534.01 Measurement

Measurement shall be made on a square foot (SF) basis, measured by the area of the of traffic paint applied based on the areas

534.02 Payment

Payment for this item shall be made at the contract unit price per linear foot (LF) and shall constitute full compensation for all labor, materials, equipment, and services necessary to apply the paint in accordance with the Contract Documents and Caltrans standards, including but not limited to the following:

- Furnishing and applying the stop line with temporary traffic paint in accordance with Caltrans Standard A24G.
- Preparing the surface as necessary to ensure proper adhesion of the paint (including cleaning and/or surface preparation).
- Ensuring proper alignment, uniformity, and quality of the edge line application.
- Coordinating with the Engineer or City inspector to ensure the paint application meets all standards for road safety and visibility.

No separate payment will be made for surface preparation, masking, or any other incidental work required to complete the paint application. All such costs shall be included in the unit price for this item.

Architectural Landscape & Irrigation Plan

Bid Item No. 601 – Construct Irrigation Improvements

601.01 Measurement

Measurement for "Construct Irrigation Improvements" shall be made on a lump sum (LS) basis. The lump sum price shall include all labor, materials, equipment, tools, and incidentals necessary to furnish and install the complete irrigation system as shown on the approved irrigation plans and as specified in the Contract Documents.

601.02 Payment

Payment for "Construct Irrigation Improvements" shall be made at the contract lump sum price and shall constitute full compensation for all work necessary to complete the irrigation system, including but not limited to:

- Trenching, backfilling, and compaction.
- Furnishing and installing irrigation piping, fittings, valves, sprinkler heads, drip lines, and all related appurtenances.
- Connection to the water supply, including backflow preventer and enclosure as required.
- Installation of the irrigation controller, wiring, and programming.
- Coordination with the power source, if applicable.
- Testing, flushing, and start-up of the complete system.
- All necessary permits, inspections, and coordination with utility providers.
- Cleanup and disposal of excess materials and debris.
- Warranty and initial maintenance for the irrigation system during the specified maintenance period.

No separate payment shall be made for individual components. Full compensation shall be included in the lump sum price.

Bid Item No. 602 – Groundcovers – Decomposed Granite

602.01 Measurement

Measurement for "Install Decomposed Granite Groundcover" shall be made by square foot (SF) of surface area installed, measured in place and accepted.

602.02 Payment

Payment for "Install Decomposed Granite Groundcover" shall be made at the contract unit price per square foot and shall include full compensation for furnishing and installing DG surface treatment, including but not limited to:

- Surface preparation and grading.
- Soil compaction and weed barrier installation, if specified.
- Furnishing, placing, and compacting decomposed granite to the specified depth.
- Installation of edging or borders, where shown on plans.
- Finishing, cleanup, and disposal of excess materials.

No separate payment shall be made for materials, preparation, or installation details not specifically listed. All such costs shall be included in the unit price.

Bid Item No. 603 – Groundcovers – Wood Mulch

603.01 Measurement

Measurement for "Install Wood Mulch Groundcover" shall be made by square foot (SF) of surface area installed, measured in place and accepted.

603.02 Payment

Payment for "Install Wood Mulch Groundcover" shall be made at the contract unit price per square foot and shall include full compensation for all labor, materials, and equipment necessary to furnish and install wood mulch, including but not limited to:

- Site preparation and minor grading.
- Weed barrier installation, if required.
- Furnishing and applying mulch to the specified thickness.
- Finishing, raking, cleanup, and disposal of excess material.

No separate payment shall be made for subgrade preparation, weed barrier, or finishing work. Full compensation shall be included in the unit price.

Bid Item No. 604 to 612 – Install Trees, Shrubs, and Planting

604.01 Measurement

Measurement for "Install Trees, Shrubs, and Planting" shall be made by each (EA) for each plant installed, categorized by size and type as listed in the plant schedule and planting legend.

604.02 Payment

Payment for "Install Trees, Shrubs, and Planting" shall be made at the contract unit price per each and shall include full compensation for furnishing and installing plant materials, including but not limited to:

- Excavation, soil amendments, backfill, and staking (as applicable).
- Furnishing and planting trees, shrubs, perennials, and groundcovers in accordance with the plans.
- Mulching, initial watering, and establishment period maintenance.
- Cleanup, disposal of debris, and replacement of any failed material during the warranty period.

All planting shall be performed per project specifications and best horticultural practices. No separate payment shall be made for maintenance during the establishment period.

Alternative Bid Items

Bid Items No. AB1 to AB3 – HDPE Pipe (12", 18", and 24")

AB1.01 Measurement

Measurement will be made on a linear foot (LF) basis for each size of pipe installed. The length of pipe shall be measured along the centerline of the pipe from end to end of each segment.

AB1.02 Payment

Payment will be made at the contract unit price per linear foot (LF) for each pipe size (24", 18", and 12"). Payment will constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the installation, including but not limited to:

- Excavation and preparation of trench, including the removal of unsuitable material, regrading, and compaction of trench bottom for proper pipe support.
- Furnishing, handling, and placing HDPE pipe, including the required fittings, joints, and appurtenances, and placement to the specified elevations and alignment.
- Pipe jointing, including the installation of rubber gaskets, mortar, or other materials necessary for watertight joints.
- Backfilling of the trench, including the placement and compaction of backfill materials in accordance with compaction requirements.
- Shoring or trench safety as required for safe excavation and installation, following OSHA and local safety regulations.
- Testing of pipe alignment and functionality, including all necessary procedures to verify proper alignment and functionality of the pipe, along with cleaning or flushing after installation.
- Final grading and restoration of the area, including restoring disturbed surfaces such as roadways, landscaping, or other surfaces to match existing conditions or as specified in the project plans.

No separate payment will be made for adjustments in material quantities or unforeseen site conditions unless directed by the Engineer.

Bid Item No. AB4 – 14" Ductile Iron Pipe, Bedding, and Backfill

AB4.01 Measurement

Measurement will be made on a linear foot (LF) basis, measured along the centerline of the installed pipe.

AB4.02 Payment

Payment at the contract unit price per linear foot (LF) includes full compensation for all labor, materials, equipment, and services necessary to furnish and install the pipe, bedding, and backfill, and meet contract requirements. Additionally, payment for this item shall include the cost of alternative materials and labor necessary to install DIP as an alternative to PVC pipe.

- Furnishing and installing 14" ductile iron pipe, including all fittings, jointing, and alignment, in accordance with AWWA C151, C110/C153, and C600.
- Providing cement-mortar lined ductile iron pipe per AWWA C104.

- Making watertight mechanical or push-on joints per AWWA C111, with restrained joints as shown on the plans or required by conditions.
- Providing bedding and trench backfill, compacted to required density, in accordance with S.M.W.C. Standard Drawing W-16 and ASTM D1557.
- Potholing to verify existing utilities and performing all work around utilities, structures, or obstructions in a safe and coordinated manner.
- Performing hydrostatic pressure and leakage testing in accordance with AWWA C600.

All costs for trench excavation, dewatering, shoring, compaction, utility coordination, and other incidentals are included in the unit price. No separate payment will be made for these activities.

Bid Item No. AB5 – 8" Ductile Iron Pipe

AB5.01 Measurement

Measurement will be made on a linear foot (LF) basis, measured along the centerline of the installed pipe.

AB5.02 Payment

Payment at the contract unit price per linear foot (LF) includes full compensation for all labor, materials, equipment, and services necessary to furnish and install the pipe, bedding, and backfill, and meet contract requirements. Additionally, payment for this item shall include the cost of alternative materials and labor necessary to install DIP as an alternative to PVC pipe.

- Furnishing and installing 8" ductile iron pipe, including all fittings, jointing, and alignment, in accordance with AWWA C151, C110/C153, and C600.
- Providing cement-mortar lined ductile iron pipe per AWWA C104.
- Making watertight mechanical or push-on joints per AWWA C111, with restrained joints as shown on the plans or required by conditions.
- Providing bedding and trench backfill, compacted to required density, in accordance with S.M.W.C. Standard Drawing W-16 and ASTM D1557.
- Potholing to verify existing utilities and performing all work around utilities, structures, or obstructions in a safe and coordinated manner.
- Performing hydrostatic pressure and leakage testing in accordance with AWWA C600.

All costs for trench excavation, dewatering, shoring, compaction, utility coordination, and other incidentals are included in the unit price. No separate payment will be made for these activities.

Bid Item No. AB6 to AB10 – CIPP Lining – Pipeline Cleaning (Mechanical and Hydro-Cleaning Method)

AB6.01 Measurement

Measurement will be made on a linear foot (LF) basis along the centerline of the pipeline cleaned, as accepted by the Engineer.

AB6.02 Payment

Payment will be made at the contract unit price per linear foot and shall constitute full compensation for all labor, materials, equipment, mobilization, remobilization(s), and incidentals required to clean the existing 14" pipeline using a combination of mechanical and hydro-cleaning methods. Cleaning shall be performed to the extent necessary to prepare the pipeline for subsequent installation of CIPP lining. All work shall be performed in accordance with

Greenbook Section 500 and shall include debris removal and disposal.



GENERAL EARTHWORK AND GRADING SPECIFICATIONS

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GENERAL EARTHWORK AND GRADING SPECIFICATIONS

6 1.0 General

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- 1.1 Intent: These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the Special Provisions. In case of conflict, the specific recommendations in the Special Provisions shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the Special Provisions.
- 1.2 The Geotechnical Consultant of Record: Prior to commencement of work, the owner shall employ the Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultants shall be responsible for reviewing the Special Provisions, and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the Owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground after it has been cleared for receiving fill but before fill is placed, bottoms of all "remedial removal" areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, Special Provisions, and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications.

The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "spreads" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in



work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

7 **2.0** Preparation of Areas to be Filled

2.1 Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 5 percent of organic matter. Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

- 2.2 Processing: Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.
- 2.3 Overexcavation: In addition to removals and overexcavations recommended in the approved grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.
- 2.4 Benching: Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.
- 2.5 Evaluation/Acceptance of Fill Areas: All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

8 3.0 Fill Material

3.1 General: Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize: Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within

10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import: If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

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- 4.1 Fill Layers: Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.
- 4.2 Fill Moisture Conditioning: Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557-91).
- 4.3 Compaction of Fill: After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557-91). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.
- 4.4 Compaction of Fill Slopes: In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557-91.
- 4.5 Compaction Testing: Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).
- 4.6 Frequency of Compaction Testing: Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.
 - 4.7 Compaction Test Locations: The Geotechnical Consultant shall document the

approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical

Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

10 **5.0 Subdrain Installation**

Subdrain systems shall be installed in accordance with the approved grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

11 **6.0** Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

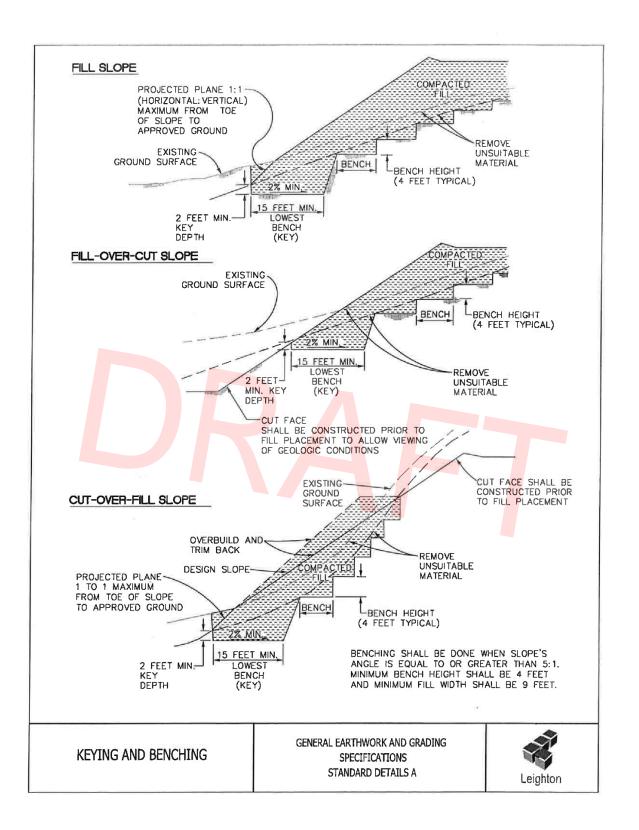
12 7.0 Trench Backfills

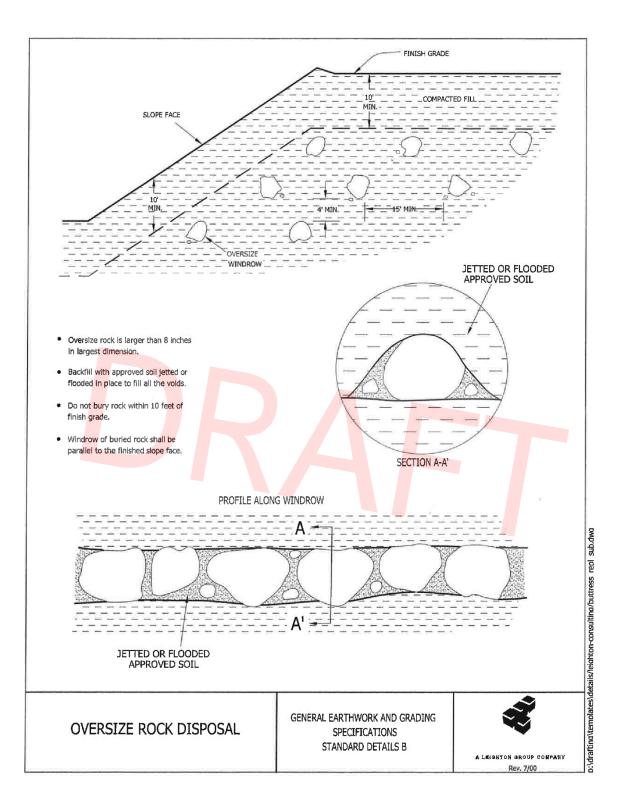
- 7.1 Safety: The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.
- 7.2 Bedding and Backfill: All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

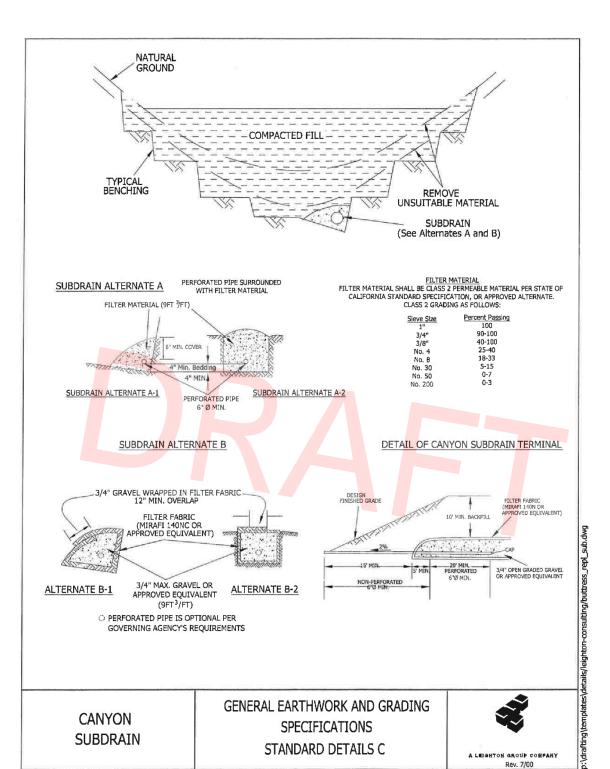
The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.3 Lift Thickness: Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Observation and Testing: The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.



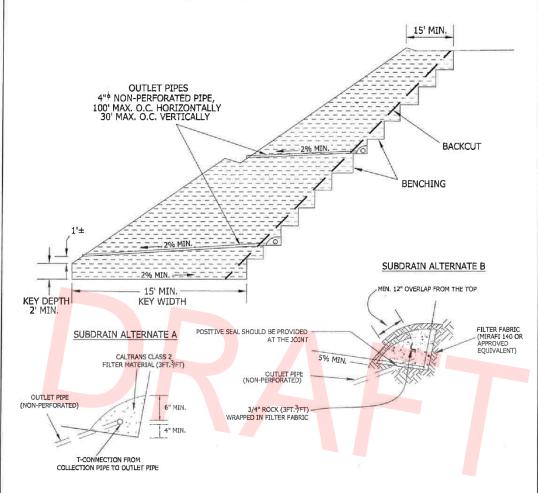




CANYON SUBDRAIN GENERAL EARTHWORK AND GRADING **SPECIFICATIONS** STANDARD DETAILS C



A LEIGHTON GROUP COMPANY Rev. 7/00



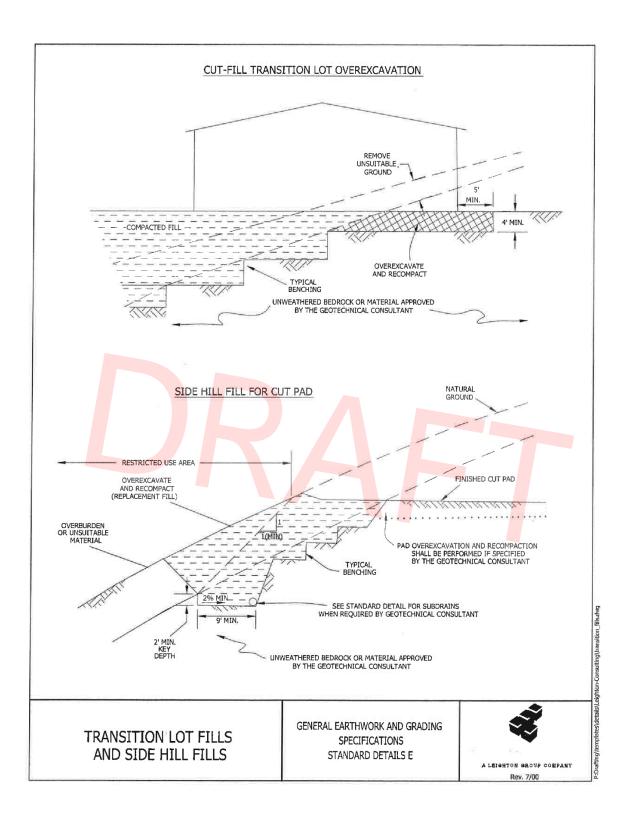
- SUBDRAIN INSTALLATION Subdrain collector pipe shall be installed with perforations down or,
 unless otherwise designated by the geotechnical consultant. Outlet pipes shall be non-perforated
 pipe. The subdrain pipe shall have at least 8 perforations uniformly spaced per foot. Perforation shall
 be 1/4" to 1/2" if drilled holes are used. All subdrain pipes shall have a gradient at least 2 % towards the
 outlet.
- SUBDRAIN PIPE Subdrain pipe shall be ASTM D2751, ASTM D1527 (Schedule 40) or SDR 23.5 ABS pipe or ASTM D3034 (Schedule 40) or SDR 23.5 PVC pipe.
- All outlet pipe shall be placed in a trench and, after fill is placed above it, rodded to verify integrity.

BUTTRESS OR REPLACEMENT FILL SUBDRAINS

GENERAL EARTHWORK AND GRADING SPECIFICATIONS STANDARD DETAILS D



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HDPE TECHNICAL SPECIFICATIONS

<u>Description</u> - This section covers the contract item HDPE Pipe of the various sizes as required for the work.

General Pipe Requirement - Pipe materials, manufacture and quality, shall conform to ASTM Designation: F2648. The Engineer shall be furnished a "Certificate of Compliance" signed by the manufacturer of the pipe certifying that the pipe conforms to the ASTM requirements. All pipe and pipe material supplied by the Contractor shall be new. Pipe shall be laid in a trench free of ponded water in conformance with Section 306-1.2.2.

<u>Joint Performance</u> - Pipe shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

<u>Fittings</u> - Fittings shall conform to ASTM F 2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the watertight joint performance requirements of ASTM F 2306.

<u>Field Pipe and Joint Performance</u> - To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material.

<u>Material Properties</u> - Material for pipe production shall be an engineered compound of virgin and recycled high-density polyethylene conforming with the minimum requirements of cell classification 435420C (ESCR Test Condition B), as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%.

<u>Pipe on Curves</u> - <u>Unsymmetrical closure of pipe joints shall not exceed 1 inch pull on the outside of the curve when pull is measured at the springline on the inside of the pipe. Mortar joints on curves shall conform in strength, texture of mortar finish and tightness to the joints for straight endedpipe.</u>

When beveled pipe is used the maximum deflection angle shall not exceed 6 degrees unless shown on the plans or approved by the Engineer.

CURED-IN-PLACE PIPE (CIPP) SPECIFICATIONS

1. INTENT

1.1 It is the intent of this specification to provide for the reconstruction of pipelines and conduits by the installation of a resin-impregnated flexible tube, which is tightly formed to the original conduit. The resin is cured using either hot water under hydrostatic pressure or steam pressure within the tube. The Cured-In-Place Pipe (CIPP) will be continuous and tight fitting.

2. REFERENCED DOCUMENTS

2.1 This specification references standards from the American Society for Testing and Materials, such as: ASTM F1216 (Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube), ASTM F1743 (Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)), ASTM D790 (Test Methods for Flexural Properties of Un-reinforced and Reinforced Plastics and Electrical Insulating Materials), and D2990 (Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics) which are made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification will govern.

3. PRODUCT, MANUFACTURER/INSTALLER QUALIFICATION REQUIREMENTS

3.1 Since waterworks products are intended to have a 50-year design life, and in order to minimize the Owner's risk, only proven products with substantial successful long-term track records will be approved. All trenchless rehabilitation products and installers must be pre-approved prior to the formal opening of bids.

Products and Installers seeking approval must meet all of the following criteria to be deemed Commercially Acceptable:

- 3.1.1 For a Product to be considered Commercially Proven, a minimum of 50 successful CIPP lining projects of a similar size and scope of work and 500,000 linear feet shall have been completed in the U.S. with an equivalent product and product size intended for use on this project and documented to the satisfaction of the Owner to assure commercial viability.
- 3.1.2 For the Bidding Company to be considered as a Commercially Proven Installer, the Company must satisfy all insurance, financial, and bonding requirements of the Owner, and must have had at least 5 (five) years active experience in the commercial installation. In addition, the Installer must have successfully installed at least 500,000 feet of an equivalent cured-in-place product intended for use on this project and of a similar size and scope. Acceptable documentation of these minimum installations must be submitted to the Owner. Installer's project manager must have a minimum of 5 years of CIPP installation experience.
- 3.1.3 Pipeline rehabilitation products submitted for approval must provide third party test results

supporting the structural performance (short-term and long-term) of the product and such data shall be satisfactory to the Owner. No product will be approved without independent third party testing verification.

- 3.1.4 Both the rehabilitation manufacturing and installation processes shall operate under a quality management system which is third-party certified to ISO 9000 or other recognized third-party certified organization standards. Proof of certification shall be required for approval.
- 3.1.5 Proposals must be labeled clearly on the outside of the proposal envelope, listing the exact CIPP product intended for use on this project and Bidding/Installer name. Only proposals using pre-approved products and Installing Companies will be opened and read. Proposals submitted on products and/or from Installing Companies that have not been pre-approved will be returned unopened
- 3.1.6 The owner authorizes the use of proven materials that serve to enhance the pipe performance specified herein. Proven materials have passed independent laboratory testing, not excluding long-term (10,000 hour) structural behavior testing, and have been successfully installed to repair failing host pipes in the U. S. for at least 4 years. In addition to the aforementioned, the owner may require that the contractor demonstrate that the enhancements proposed exceed the specifications herein, prior to the installation of the enhanced material systems. This section in no way shall be interpreted as authorization to deviate from the minimum standard practices set forth herein.
- 3.1.7 The Bidding/Installing Company shall ensure that the resin impregnation ("wet-out") of the CIPP tube is performed at a <u>permitted</u> wet-out facility operating under documented and verifiable quality control procedures. The facility may be owned and operated by the Bidding/Installing Company or by a qualified third-party provider, provided that:
 - The third-party wet-out facility maintains documented QA/QC protocols for resin mixing, tube impregnation, and shipping.
 - The Bidding/Installing Company is responsible for maintaining chain-of-custody documentation for all wetted-out liners, including batch records, resin specifications, and curing parameters.

Documentation for products and installers seeking pre-approved status must be submitted no less than one weeks prior to proposal due date to allow time for adequate consideration. The Owner will advise of acceptance or rejection a minimum of two days prior to the due date. All required submittals must be satisfactory to the Owner.

4. MATERIALS

- 4.1 Tube The sewn Tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216, Section 5.1 or ASTM F1743, , Sections 5 and 6. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe, and stretch to fit irregular pipe sections.
- 4.1.1 The wet out Tube shall have a relatively uniform thickness that when compressed at installation pressures will equal or exceed the calculated minimum design CIPP wall

thickness.

- 4.1.2 The Tube shall be manufactured to a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowance should be made for circumferential stretching during installation.
- 4.1.3 The outside layer of the Tube shall be coated with an impermeable, flexible membrane that will contain the resin and allow the resin impregnation (wet out) procedure to be monitored.
- 4.1.4 The Tube shall contain no intermediate or encapsulated elastomeric layers. No material shall be included in the Tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.
- 4.1.5 The wall color of the interior pipe surface of CIPP after installation shall be a relatively light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.
- 4.1.6 Seams in the Tube shall be stronger than the non-seamed felt material.
- 4.1.7 The Tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturers name or identifying symbol. The tubes must be manufactured in the USA.
- 4.2 Resin The resin system shall be a corrosion resistant polyester or vinyl ester system including all required catalysts, initiators that when cured within the tube create a composite that satisfies the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the submitted and approved design of the CIPP for this project. The resin shall produce a CIPP that will comply with the structural and chemical resistance requirements of this specification.

5. STRUCTURAL REQUIREMENTS

- 5.1 The CIPP shall be designed as per ASTM F1216, Appendix X.1. The CIPP design shall assume no bonding to the original pipe wall.
 - 5.2 The Contractor must have performed long-term testing for flexural creep of the CIPP pipe material installed by his Company. Such testing results are to be used to determine the long-term, time dependent flexural modulus to be utilized in the product design. This is a performance test of the materials (Tube and Resin) and general workmanship of the installation and curing as defined within the relevant ASTM standard. A percentage of the instantaneous flexural modulus value (as measured by ASTM D790 testing) will be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, will be verified by this testing. Retention values exceeding 50% of the short-term test results shall not be applied unless substantiated by qualified third party test data to the Owner's satisfaction. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in the CIPP design.
- 5.3 The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly or the

probe or knife blade moves freely between the layers. If the layers separate during field sample testing, new samples will be required to be obtained from the installed pipe. Any reoccurrence may cause rejection of the work.

- 5.4 The Enhancement Factor 'K' shall be assigned based on the design condition as follows:
 - For Partially Deteriorated pipe conditions, K = 7.
 - For Fully Deteriorated pipe conditions, K = 1 (or as determined per ASTM F1216 Appendix X1).
- 5.5 The cured pipe material (CIPP) shall conform to the structural properties, as listed below.

MINIMUM CIPP PHYSICAL PROPERTIES

		Cured Polyester Composite		
Property	Test Method	min. per ASTM F1216	Enhanced Resin	
Mo <mark>du</mark> lus of Ela <mark>stic</mark> ity	ASTM D790	250, <mark>000 psi</mark>	400,000 psi	
Flexural Stress	ASTM D790	4,5 <mark>0</mark> 0 psi	4,500 psi	

5.6 The required structural CIPP wall thickness shall be based as a minimum, on the physical properties in Section 5.5, or greater values if substantiated by independent lab testing and in accordance with the design equations in the Appendix X1. Design Considerations of ASTM F1216, and the following design parameters:

Design Safety Factor (typically used value) Retention Factor for Long-Term Flexural Modulus to be used in Design =50% - 75% (As determined by long-term tests described in Section 5.2 and approved by the Owner) Ovality* (calculated from (X1.1of ASTM F1216) 13 Enhancement Factor, K =See Section 5.4 =1/2 Soil Depth (ft.) Groundwater Depth (above invert of existing pipe)* Soil Depth (above crown of existing pipe)* =Field Conditions (ft.) Soil Modulus** =120 psi Soil Density** =120 pcf Live Load** =H20 Highway Design Condition (partially or fully deteriorated)*** =FD

- * Denotes information, which can be provided here or in inspection videotapes or project construction plans. Multiple line segments may require a table of values.
- ** Denotes information required only for fully deteriorated design conditions.
- *** Based on review of video logs, conditions of pipeline may be fully or partially deteriorated. However, all segments

5.7 Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

6. <u>TESTING REQUIREMENTS</u>

- 6.1 Chemical Resistance The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical-testing requirements.
- 6.2 Hydraulic Capacity Overall, the hydraulic cross-section shall be maintained as large as possible. The CIPP shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.
- 6.3 CIPP Field Samples The Contractor shall submit test results from field installations of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 5.5 have been achieved in previous field applications. Samples for this project shall be made and tested as described in Section 10.1.

7. INSTALLATION RESPONSIBILITIES FOR INCIDENTAL ITEMS

- 7.1 It shall be the responsibility of the Owner to locate and designate all manhole access points open and accessible for the work, and provide rights-of-access to these locations. The Contractor shall obtain all necessary permits (encroachment permit, etc.) and implement traffic control to the satisfaction of the local jurisdiction(s). The Contractor shall coordinate with the local water purveyor (South Mesa Water Company) to obtain construction water meters for cleaning, installation, and other related work items.
- 7.2 Cleaning of Pipelines The Contractor, when required, shall remove all internal debris out of the pipeline that will interfere with the installation of CIPP. The installer shall determine the appropriate cleaning methods for all pipeline segments via initial pipeline inspection. High-velocity hydraulic cleaning methods shall be prioritized, where determined to be appropriate. Mechanical cleaning methods, where deemed necessary, shall be considered as an alternative pay item. Any hazardous waste material encountered during this project will be considered as a changed condition.
- 7.4 Inspection of Pipelines Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections using close circuit television (CCTV) inspection techniques. The pipeline interior shall be carefully inspected to determine the location of any conditions that may prevent proper installation of CIPP. A videotape and suitable written log for each line section shall be produced for reference by the Owner.

7.5 Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions such as solids and roots that will prevent the insertion of CIPP. If pre-installation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that will prevent the installation process, , then the Contractor shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered as a separate pay item.

8. <u>INSTALLATION</u>

- 8.1 CIPP installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with the following modifications:
- 8.2 Resin Impregnation The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the potential loss of resin during installation through cracks and irregularities in the original pipe wall, as applicable.
- 8.3 Tube Insertion The wet out tube shall be positioned in the pipeline using either inversion or a pull-in method as defined within relevant ASTM standards previously stipulated. If pulled into place, a power winch or its equivalent should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through a proposed manhole that shall be pre-installed by the Contractor or approved access point and fully extend to the next designated manhole or termination point. No additional payment will be for excavations for the purpose subsequent re-openings of an approved access point.
- 8.4 Temperature gauges shall be placed between the tube and the host pipe's invert position to monitor the temperatures during the cure cycle.
- 8.5 Curing shall be accomplished by utilizing hot water under hydrostatic pressure or steam pressure in accordance with the manufacturer's recommended cure schedule. A cooldown process shall be conducted that complies with the resin manufacturer's specification.

9. EXISTING BRANCH AND SERVICE CONNECTIONS

4 9.1 It is the intent of these specifications that all existing branch and service connections will be sealed by the CIPP lining. One branch (tee), as identified on the Contract Drawings, is to be re-opened without excavation, utilizing a remotely controlled cutting device, monitored by a CCTV. No additional payment will be made for excavations for the purpose of reopening connections and the Contractor will be responsible for all costs and liability associated with such excavation and restoration work.

10. INSPECTION

- 10.1 CIPP samples shall be prepared for each installation designated by the owner/engineer or approximately 20% of the project's installations. Pipe physical properties will be tested in accordance with ASTM F1216 or ASTM F1743, Section 8, using either method proposed. The flexural properties must meet or exceed the values listed in the table in Section 5.5 of this specification, Table 1 of ASTM F1216 or the values submitted to the Owner/engineer by the contractor for this project's CIPP wall design, whichever is greater.
- 10.2 Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743. The average measured wall thickness shall be equal to or greater than the submitted minimum design wall thickness as calculated in Section 5.6 of this document. The minimum wall thickness at any point shall not be less than 87.5% of the submitted minimum design wall thickness as calculated in paragraph 5.6 of this document.
- 10.3 Visual inspection of the CIPP shall be in accordance with ASTM F1743, Section 8.6.

11. CLEAN-UP

11.1 Upon acceptance of the installation work and testing, the Contractor shall restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

12. PAYMENT

12.1 Payment for the work included in this section will be in accordance with the prices set forth in the proposal for the quantity of work performed.

APPENDIX A STNADARD PLANS AND SPECIFICATIONS

Standard Plans and Specifications

<u>Standard Plans – Individual Standards</u>

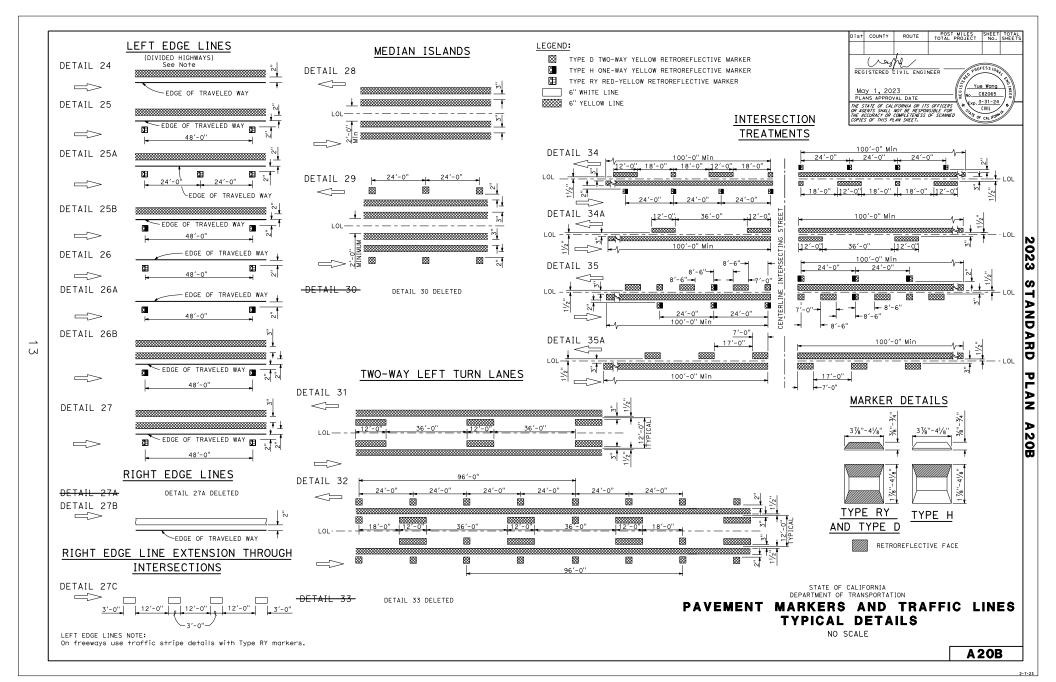
- Caltrans Standard Plan A20B Pavement Markers and Traffic Lines Typical Details
- Caltrans Standard Plan A24D Pavement Markings Words
- Caltrans Standard Plan A24G Pavement Markins Yield Lines, Limit Lines, and Wrong Way Details
- Caltrans Standard Plan A73B Markers
- Caltrans Standard Plan A73C Delineators, Channelizers and Barricades
- Caltrans Std. D75B Concrete Pipe Inlet Riser
- Caltrans Std. D77B Grate Details No. 2
- City of Yucaipa Std. Dwg. 106-3
- SPPWC Std. 120-3 Curb
- SPPWC Std. 323-2 Manhole
- SPPWC Std. 600-4 Chain Link Fence and Gates
- YVWD Std. Dwg. S-5 Adjust Existing Manhole to Grade

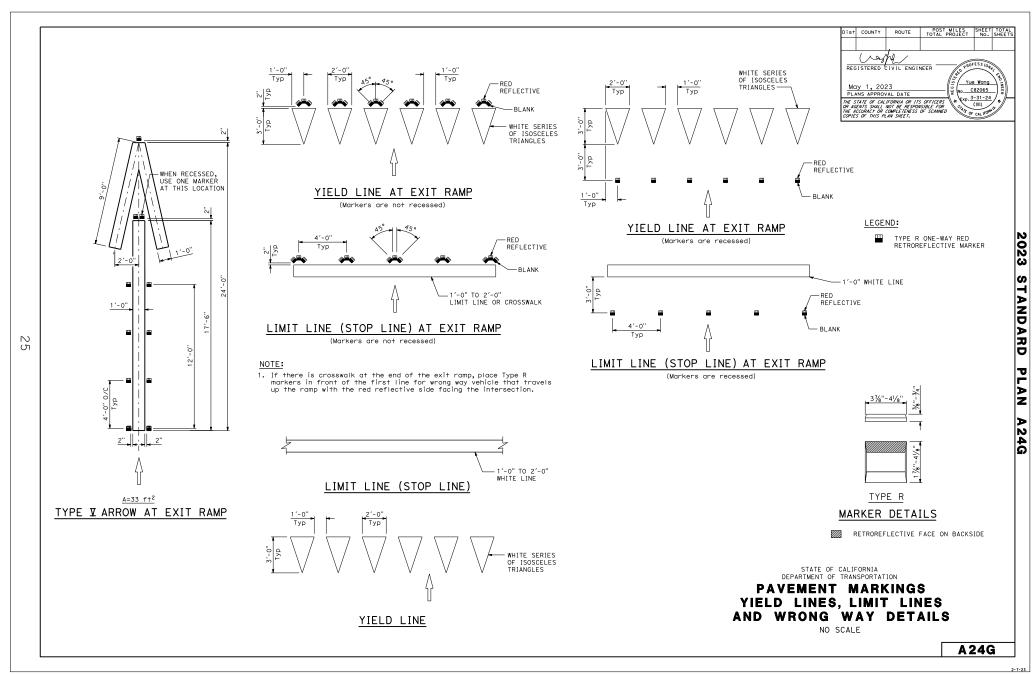
Standard Plan - Full Sets

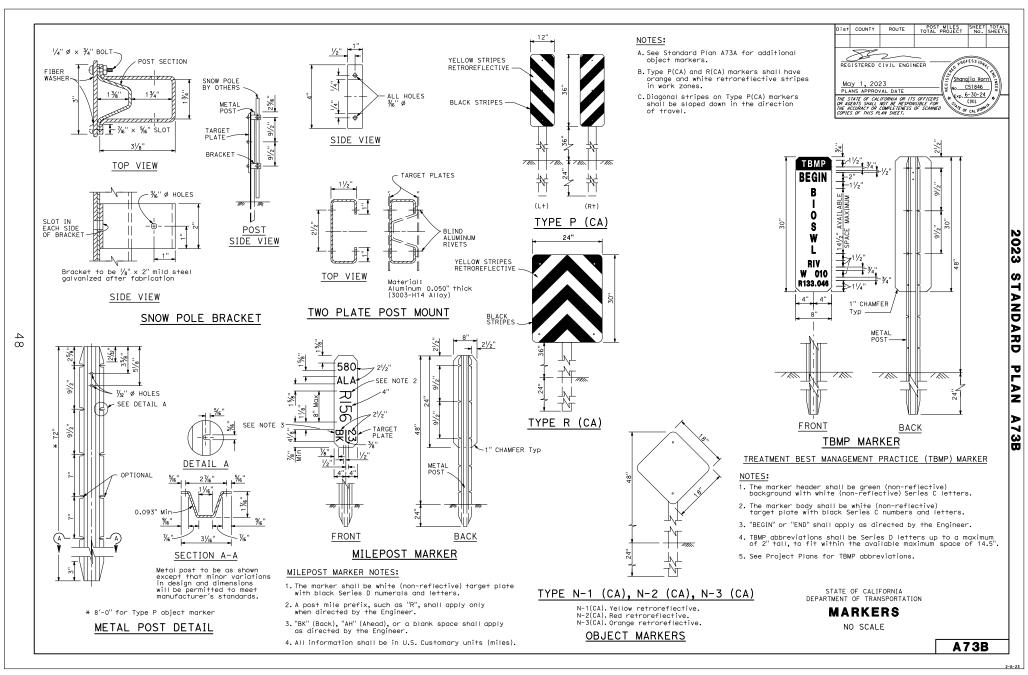
- South Mesa Water Company Standard Drawings
- Riverside County Road Standards (Ordinance No. 461)

Standard Specifications

- South Mesa Water Company Standard Specifications for the Furnishing of Materials and Construction of Water Facilities
- Riverside County Standard Specifications (Ordinance No. 461)







POST MILES SHEET TOTAL TOTAL PROJECT No. SHEETS

Yue Wang

C82065

Exp. 3-31-24

CIVIL

DELINEATORS

2

WHITE STRIPES

TYPE II BARRICADE

TABLE I - DELINEATORS RETROREFLECTIVE SHEETING TYPE FRONT BACK WHITE WHITE (SEE NOTE 1) WHITE NONE YELLOW NONE

RED

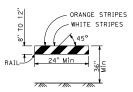
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May 1, 2023

PLANS APPROVAL DATE

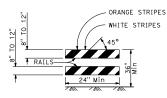
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CHANNELIZERS





9



TYPE I BARRICADE BARRICADES (See Note 3)

Only face of rails shown. Barricade construction materials and supports as specified in the specifications.

TABLE 2 - BARRICADES					
BARRICADE	TYPE I	TYPE II	TYPE III		
WIDTH OF RAIL	8" Min - 12" Max *	8" Min - 12" Max *	8" Min - 12" Max *		
LENGTH OF RAIL	24" Min	24" Min	48" Min		
WIDTH OF STRIPES * *	6"	6"	6"		
HEIGHT	36" Min	36" Min	60" Min		
NUMBER OF RETROREFLECTIVE RAIL FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTION		

- ${f x}$ For the wooden option dimensions are nominal lumber dimensions.
- * * For rails less than 36" long, 4" wide stripes shall be used.

NOTE A:

Barricades to have a minimum of 270 square inches of retroreflective area facing traffic when used on freeways, expressways, and other high speed highways.

NOTES:

- 1. The retroreflective sheeting used on the back of delineator shall be a minimum size of 3" x 3".
- 2. The type of delineator to be installed will be designated on the plans.
- 3. All barricade stripes shall be retroreflective and sloped downward in the direction of the opened traffic lane.

NONE

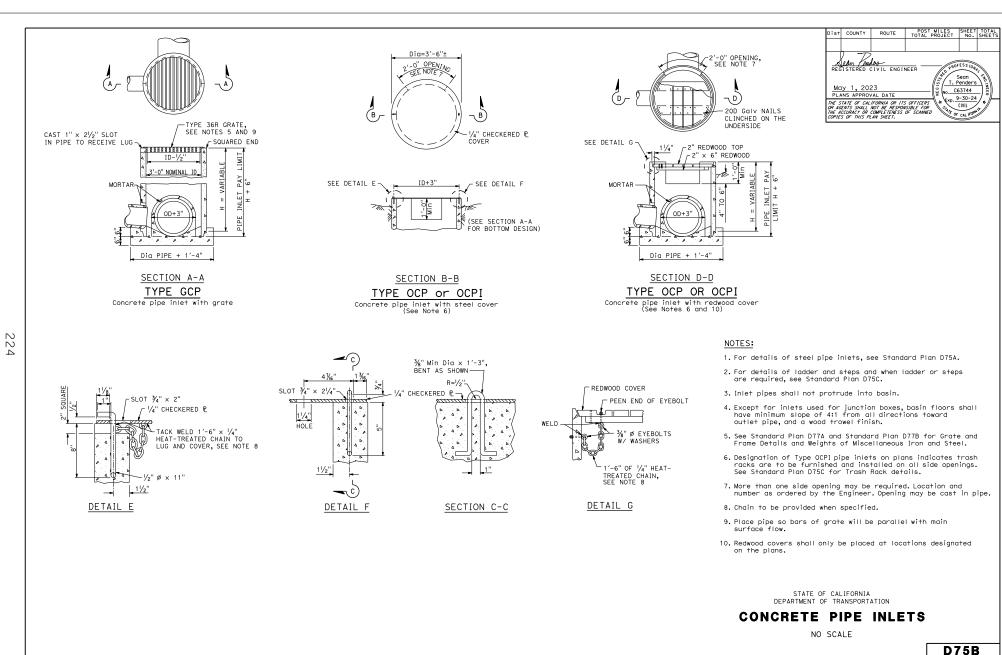
- 4. See Standard Plan A73B for Metal Post Details.
- 5. Unless shown otherwise on the plans, or as directed by the Engineer, the color of the retroreflective sheeting for permanent channelizers shall conform to the color of the pavement markings it supplements.
- 6. Except, Class 1 (Flexible Post) temporary delineators and temporary channelizers in work zones shall be orange post with white retroreflective sheeting.

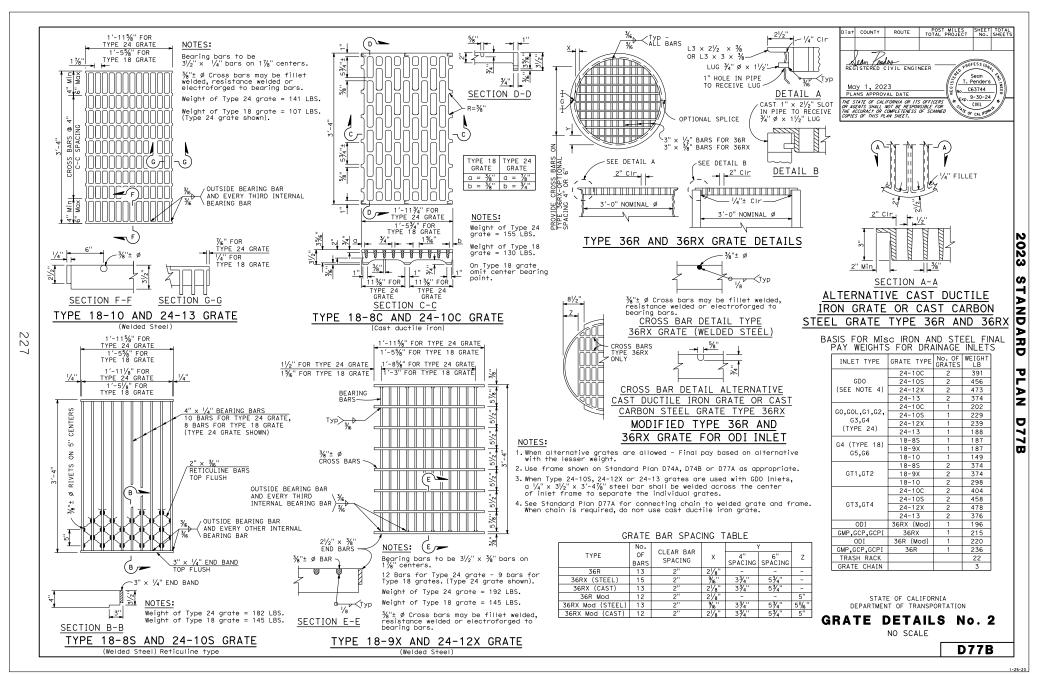
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

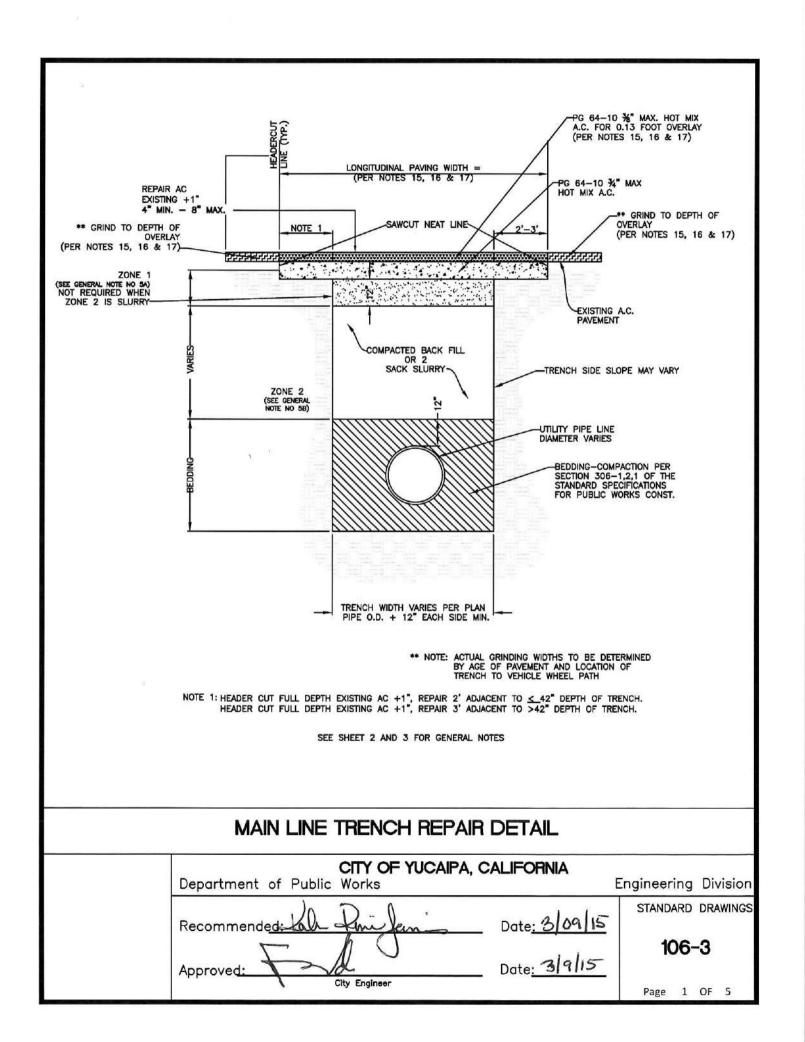
DELINEATORS, CHANNELIZERS AND BARRICADES

NO SCALE

A73C







GENERAL NOTES:

- ALL EXCAVATION WITHIN THE CITY OF YUCAIPA RIGHT-OF-WAY REQUIRES AN ENCROACHMENT PERMIT FROM THE ENGINEERING DEPARTMENT.
- UNDERGROUND SERVICE ALERT SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO START OF WORK 1-800-422-4133.
- 3. ALL EXCAVATIONS SHALL BE MADE, PROTECTED, AND SUPPORTED AS REQUIRED FOR SAFETY AND IN THE MANNER SET FORTH IN THE OPERATIONS RULES, ORDERS, AND REGULATIONS PRESCRIBED BY THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY.
- 4. COMPACTION OF BACKFILL SHALL BE <u>VERIFIED BY A GEOTECHNICAL</u> <u>ENGINEER FOR THE CONTRACTOR</u> AND APPROVED BY CITY ENGINEER PRIOR TO THE PLACING OF PERMANENT PAVEMENT.
- 5. A) BACKFILL ZONE 1 SHALL CONSIST OF CLASS II CRUSHED AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 6", AND CERTIFIED.
 - B) BACKFILL IN ZONE 2 SHALL CONSIST OF CLASS II CRUSHED AGGREGATE BASE COMPACTED TO 90% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 12", AND CERTIFIED. IN SOME CASES NATIVE MATERIAL MAY BE ACCEPTABLE IF APPROVED BY THE CITY ENGINEER AND THE NATIVE MATERIAL MEETS "GREENBOOK" SPECIFICATIONS FOR TRENCH BACKFILL. BACKFILL IN ZONE 2 FOR WORK WITHIN ARTERIAL STREETS SHALL BE 2 TO 2.5 SACK SLURRY MIX.
 - C) BEDDING SHALL BE PER PLANS AND SPECIFICATIONS, AND SHALL ONLY EXTEND 12" ABOVE THE TOP OF THE PIPELINE OR CONDUIT
 - D) NO JETTING OF FLOODING OF BACKFILL MATERIAL WILL BE ALLLOWED.
- 6. A MINIMUM 2-INCH THICKNESS OF TEMPORARY ASPHALT PAVING SHALL BE PLACED WITHIN THE TRENCH AREA IMMEDIATELY, UNTIL PERMANENT REPAIR IS COMPLETED. THE TEMPORARY PAVING SHALL BE PLACED AND COMPACTED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH TRAVELED SURFACE, FLUSH WITH THE SURROUNDING PAVEMENT. PERMITTEE SHALL MAINTAIN THE TEMPORARY PAVEMENT IN A SAFE AND SMOOTH CONDITION UNTIL PERMANENT PAVING IS IN PLACE.
- 7. PRIOR TO PLACEMENT OF PERMANENT PAVING, EXISTING PAVEMENT SHALL BE GROUND TO THE APPROPRIATE HEADER CUT WIDTH PER NOTES 15, 16 & 17. PAVEMENT CRACKED ADJACENT TO THE TRENCH SHALL BE REMOVED.

CITY OF YUC	AIPA, CALIFORNIA
Department of Public Works	Engineering Division
Recommended: Kale Phie Jun	Date: 3/09/15. STANDARD DRAWII
Approved: City Engineer	Date: Page 2 of 5

- 8. ALL EDGES OF EXISTING PAVEMENT BEING JOINED AND SURFACE BEING OVERLAID SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION.
- 9. TRENCHES OF 300 FEET OR MORE SHALL BE PAVED WITH A SELF-PROPELLED PAVING MACHINE.
- 10. ANY STREET PAVED WITH ASPHALTIC CONCRETE IN THE PREVIOUS 60 MONTHS OR RESURFACED WITH AN ASPHALTIC EMULSION (SLURRY SEAL, CAPE SEAL, MICROSURFACE) IN THE PREVIOUS 36 MONTHS, WHERE THE TRENCH EXTENDS FROM THE CURB MORE THAN 5 FEET (INCLUDING SERVICE CONNECTIONS AND METER INSTALLATIONS) OR IS IN A TRAVELED LANE, WILL REQUIRE AN OVERLAY OR SLURRY SEAL 25 FEET IN BOTH DIRECTIONS FROM THE CENTERLINE OF TRENCH. OTHER TRENCHES LESS THAN 5 FEET FROM CURB OR WITHIN A STREET THAT WAS LAST PAVED GREATER THAN 60 MONTHS OR SEALED GREATER THAN 36 MONTHS SHALL BE REPAIRED PER NOTES 15, 16 & 17.
- 11. IF TRENCH FAILURE SHOULD OCCUR, THE PERMITEE/DEVELOPER WILL BE NOTIFIED OF SUCH DEFICIENCIES AND ALLOWED TO REMOVE, REPLACE, OR REMEDY HIS WORK. UPON FAILURE OF THE CONTRACTOR TO PROMPTLY COMPLY AND UNDER ORDER OF THE CITY ENGINEER, TRENCH FAILURES SHALL BE REMEDIED, REMOVED, REPLACED BY THE CITY AT PERMITEE/DEVELOPER SOLE EXPENSE.
- NOT USED
- 13. THE CITY OF YUCAIPA MAY HAVE ADDITIONAL REQUIREMENTS, PLACED ON THE PERMIT, FOR EXCAVATIONS WITHIN YUCAIPA BOULEVARD, OAK GLEN ROAD, BRYANT STREET, CALIFORNIA STREET, WILDWOOD CANYON ROAD, CALIMESA BOULEVARD, 5TH STREET, AVENUE E AND COUNTY LINE ROAD.
- 14. WHEN TRENCH EXTENDS UNDER CURB, TRENCH SHALL BE SLURRY BACKFILLED WITH CONCRETE FROM BACK OF CURB TO ONE FOOT (1') BEYOND LIP OF GUTTER; FILL TO SUBGRADE ELEVATION WITH 11/2 2 SACK MIX.

CITY OF YUCAIPA	A, CALIFORNIA	
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GENERAL NOTES:

15. ARTERIAL STREET MAINLINE TRENCH STANDARD

- A. IF THE TRENCH IS IN THE OUTSIDE LANE, THE WHOLE LANE AND BIKE LANE SHALL BE GROUND AND OVERLAID WITH 1-1/2" PAVING.
- B. IF THE TRENCH IS IN AN INSIDE LANE, ONLY THE LANE WIDTH SHALL BE GROUND AND OVERLAID WITH 1-1/2" PAVING.
- C. IF THE TRENCH IS ON A LANE LINE OR WITHIN 24" OF A LANE LINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL EXTEND TO THE CENTEROF EACH LANE.

16. COLLECTOR STREET MAINLINE TRENCH STANDARD

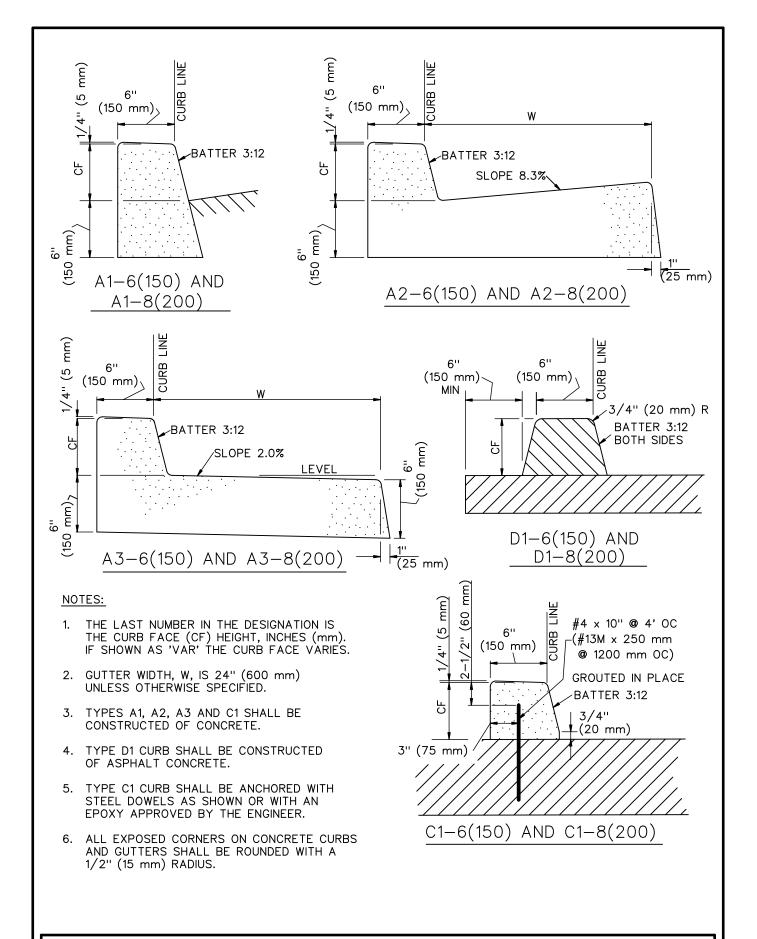
- A. IF THE TRENCH IS MORE THAN 12' FROM CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 12' FROM CENTERLINE TO EDGE OF EXISTING PAVEMENT.
- B. IF THE TRENCH IS BETWEEN 12' AND 10' FROM THE CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 5' FROM CENTERLINE TO EDGE OF EXISTING PAVEMENT.
- C. IF THE TRENCH IS BETWEEN 9' AND 2' FROM CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED FROM CENTERLINE TO 12' FROM CENTERLINE.
- D. IF THE TRENCH IS ON CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 10' CENTERED ON THE ROADWAY.

CITY OF YUCAIPA,	CALIFORNIA	70 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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Approved: City Engineer	Date: 3/9/15	Page 4 of 5

- 17. LOCAL STREET MAINLINE TRENCH STANDARD (HALF STREET
 - A. TO AVOID "FLOATER" PAVEMENT SECTIONS, IF THE EXISTING STREET PAVING HALF-WIDTH IS 13' OR LESS, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE COSTRUCTED THE ENTIRE HALF-STREET WIDTH. 6' EDGEMILL GRINDING ON EACH SIDE OF THE PAVING SECTION MAY BE ACCEPTABLE IF APPROVED BY CITY ENGINEER.
 - B. FOR STREET HALF-WIDTHS BETWEEN 13' AND 18', THE MINIMUM 1-1/2" GRIND AND OVERLAY SECTION SHALL EXTEND TO CENTERLINE AND SPAN 12' WITH A MINIMUM EXTENSION BEYOND THE TRENCH LINE ON ANY ONE SIDE OF THE TRENCH NOT BEING LESS THAN 2 FEET.
 - C. IF THE TRENCH IS ON CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL SPAN 10' CENTERED ON THE ROADWAY.

IF A STREET IN WHICH A MAINLINE REPAIR OR INSTALLATION IS OCCURRING FALLS WITHIN THE CITY'S PMP STREET REHABILITATION SCHEDULE FOR THE UPCOMING FISCAL YEAR, THE CITY WILL ALLOW THE PERMITTEE TO PAY THE CITY THE STREET REHABILITATION CONTRACT UNIT RATE, PLUS TEN PERCENT FOR ADMINISTRATIVE/MOBILIZATION FEES FOR THE REQUIRED PAVEMENT OVERLAY SECTION BEYOND THE TRENCH SECTION. WITH THIS OPTION THE PERMITTEE WOULD BE REQUIRED TO BASE-PAVE FLUSH TO EXISTING PAVEMENT USING PG. 64-10 3/4" MAX HOT MIX A.C.

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CITY OF YUCAIPA, CALIFO	ORNIA
Department of Public Works	Engineering Division
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Approved: Date:	3/9/15. Page 5 of 5



STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

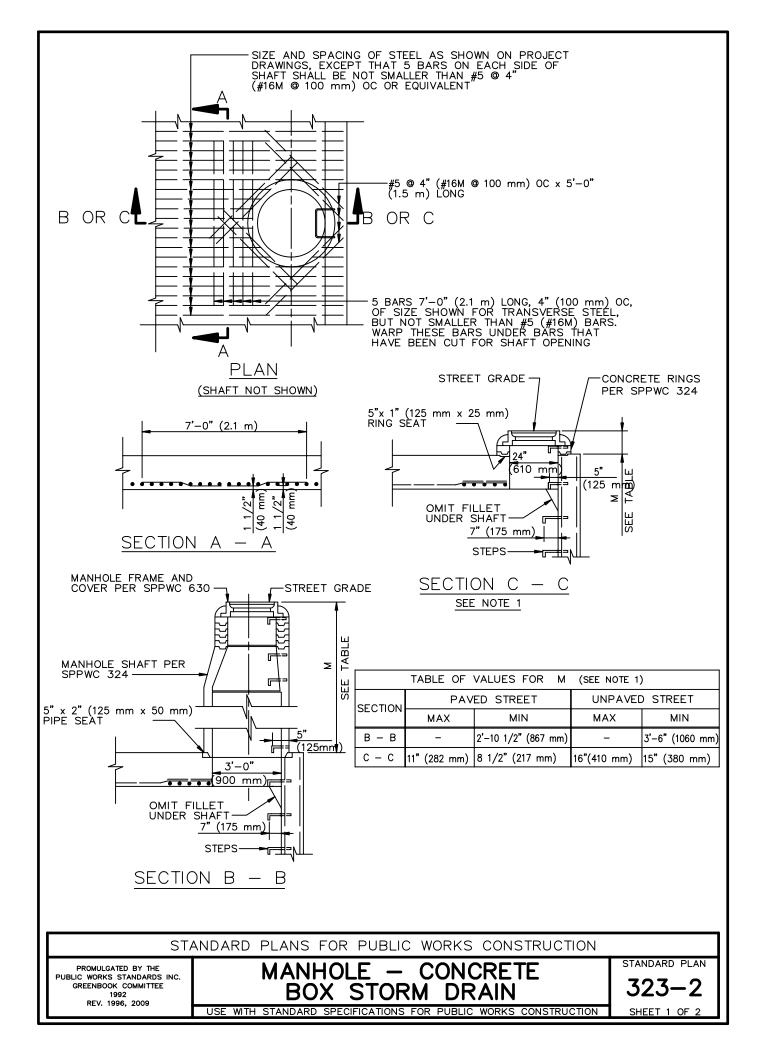
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1986, 2009, 2021

CURB AND GUTTER - BARRIER

120-3

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

120-3
SHEET 1 OF 1



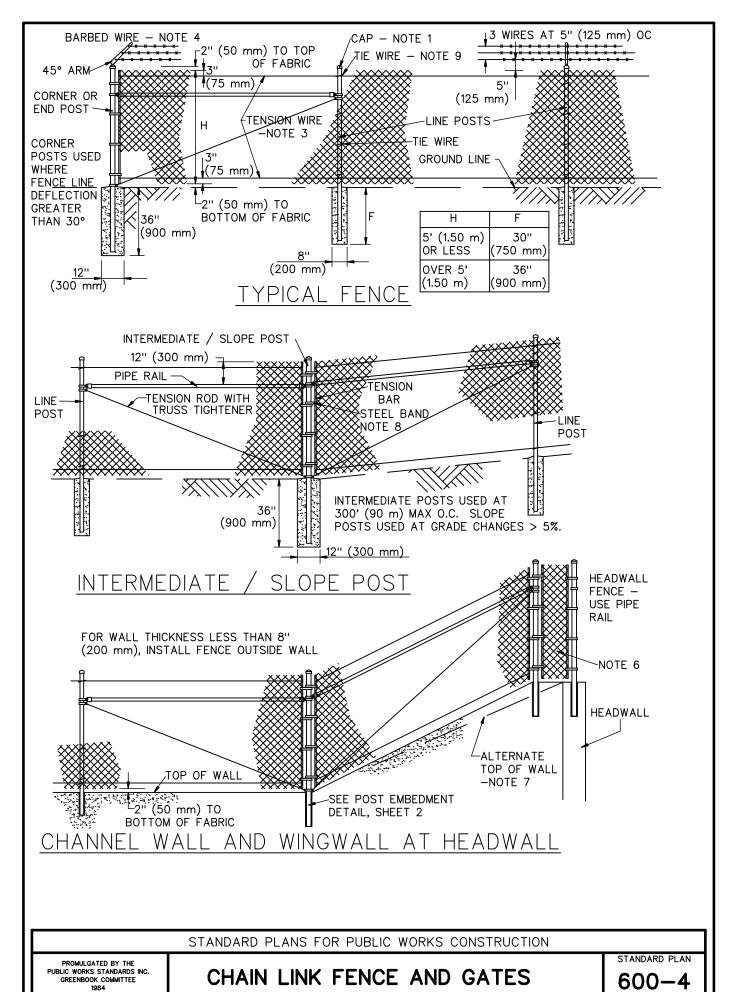
NOTES

- 1. WHEN DEPTH M FROM STREET GRADE TO THE TOP OF THE BOX IS LESS THAN 2'-10 1/2" (867 mm) FOR PAVED STREETS OR 3'-6" (1060 mm) FOR UNPAVED STREETS, CONSTRUCT SHAFT PER SECTION C-C.
- STATIONS OF MANHOLES SHOWN ON PLANS. APPLY AT CENTERLINE LINE OF SHAFT. ELEVATIONS ARE SHOWN AT CENTERLINE OF SHAFT.
- 3. REINFORCEMENT SHALL CONFORM TO ASTM A 615, GRADE 40 (ASTM A 615M, GRADE 300), AND SHALL TERMINATE 40 mm (1 1/2") CLEAR OF CONCRETE SURFACES UNLESS OTHERWISE SHOWN.
- 4. STEPS SHALL CONFORM TO SPPWC 635 OR 636. UNLESS OTHERWISE SHOWN, STEPS SHALL BE UNIFORMLY SPACED 14" (350 mm) TO 15" (375 mm) OC. THE LOWEST STEP SHALL NOT BE MORE THAN 24" (600 mm) ABOVE THE INVERT.
- 5. MANHOLE FRAME AND COVER SHALL CONFORM TO SPPWC 630 UNLESS OTHERWISE SHOWN.
- MANHOLE SHAFT SHALL CONFORM TO SPPWC 324 UNLESS OTHERWISE SHOWN.
- 7. WHERE A MANHOLE SHAFT 36" (900 mm) WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 326.
- WHERE A PRESSURE MANHOLE SHAFT WITH ECCENTRIC REDUCER IS SPECIFIED REFER TO SPPWC 328.
- 9. WHERE A PRESSURE MANHOLE SHAFT 36" (900 mm) WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 329.
- 10. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:
 - 324 MANHOLE SHAFT WITH ECCENTRIC REDUCER
 - 326 MANHOLE SHAFT 36" (900 mm) WITHOUT REDUCER
 - 328 PRESSURE MANHOLE SHAFT WITH ECCENTRIC
 - 329 PRESSURE MANHOLE SHAFT 36" (900 mm) WITHOUT REDUCER
 - 630 24" (600 mm) MANHOLE FRAME AND COVER
 - 633 36" (900 mm) MANHOLE FRAME AND COVER
 - 635 STEEL STEP
 - 636 POLYPROPYLENE PLASTIC STEP

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE — CONCRETE BOX STRORM DRAIN STANDARD PLAN

323-2



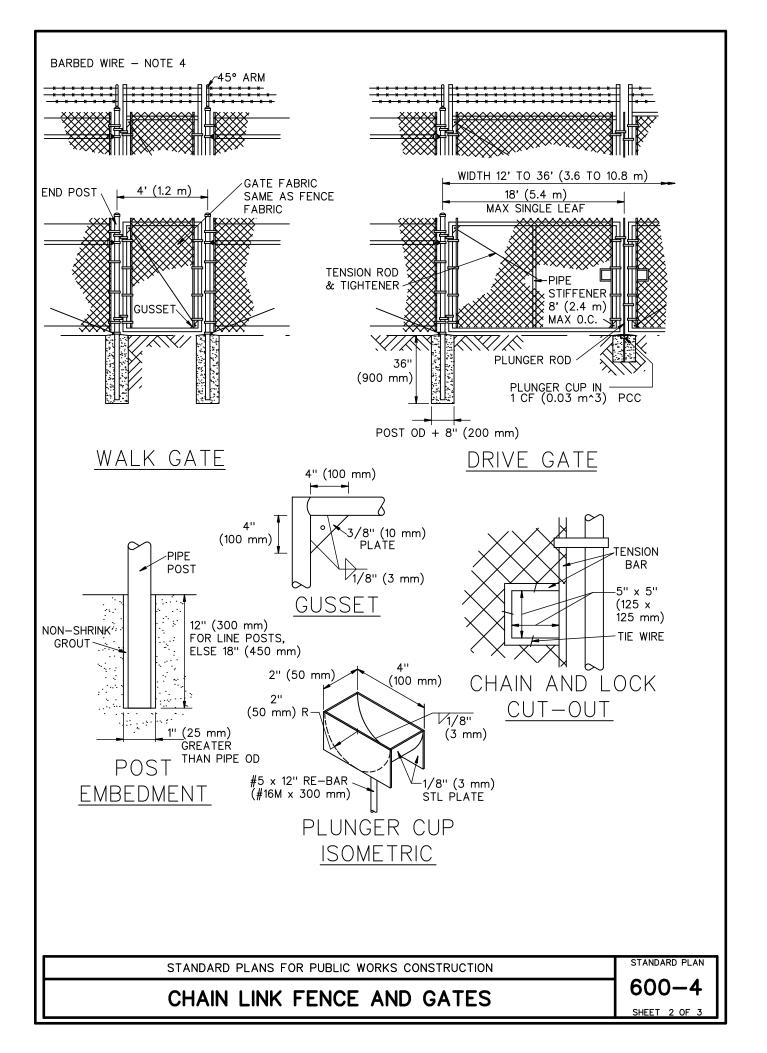
CHAIN LINK FENCE AND GATES

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

REV. 1996, **2005**, 2009, 2021

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NOTES:

- SECURE DRIVE-FIT GALVANIZED CAP TO POST WITH 1/4" (6 mm) ROUND-HEAD RIVET.
- 2. H DENOTES FABRIC WIDTH AND NOMINAL FENCE HEIGHT. H = 5' (1.5 m) UNLESS OTHERWISE NOTED.
- 3. IF FENCE WITH TOP RAIL IS SPECIFIED, DELETE STEEL TENSION WIRE AT TOP, AND PIPE RAILS AT INTERMEDIATE, SLOPE, END AND CORNER POSTS. EXTEND TENSION ROD TO TOP RAIL.
- 4. BARBED WIRE SHALL BE USED ONLY WHEN SPECIFIED.
- 5. POST SPACING IS MAXIMUM 10' (3.0 m).
- 6. FILL CLEAR OPENINGS GREATER THAN 3" (75 mm) WITH FABRIC. FOR OPENINGS LESS THAN 18" (450 mm), TIE FABRIC TO POSTS.
- 7. USE ONE POST FOR COMBINED SLOPE AND CORNER POST IF TOP OF CHANNEL WALL IS CONSTRUCTED AS SHOWN FOR "ALTERNATE".
- 8. STEEL BANDS AT TENSION BARS SHALL BE $1/8" \times 1"$ (3 x 25 mm), MINIMUM, SPACED AT MAXIMUM 16" (400 mm).
- 9. SECURE TENSION WIRES TO EACH LINE POST WITH TIE WIRES.

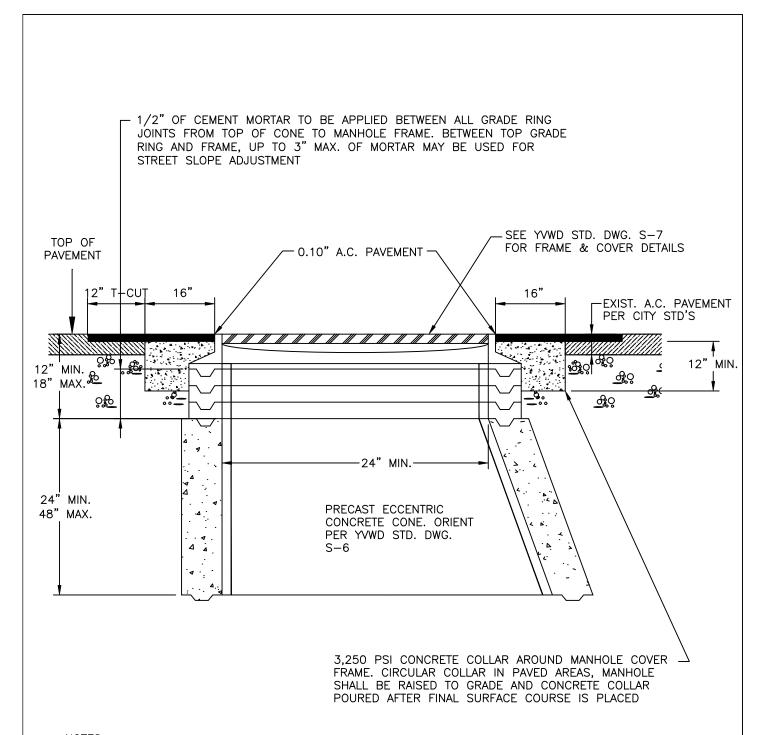
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CHAIN LINK FENCE AND GATES

STANDARD PLAN

600-4

SHEET 3 OF 3



NOTES:

- 1. MORTAR JOINTS SUFFICIENT MORTAR SHALL BE APPLIED ACROSS ENTIRE FACE OF JOINT SO THAT WHEN PRECAST UNITS ARE PLACED ON TOP OF ONE ANOTHER, THE MORTAR WILL SQUEEZE OUT BOTH THE INSIDE AND OUTSIDE WALL FACES. JOINTS SHALL BE "POINTED UP" AFTER SETTING PRECAST UNITS EXCLUDING GRADE RINGS.
- 2. ALL MORTARED JOINTS MUST HAVE A TOOLED FINISH ON INSIDE OF MANHOLES. EXCESS MORTAR SHALL BE CLEANED OFF OF PRE—CAST CONCRETE SECTIONS.

ADJUST EXISTING MANHOLE TO GRADE

2022



Approved by the Yucaipa Valley Water District Board of Directors on December 7, 2021 as Resolution No. 2021-59

S-5

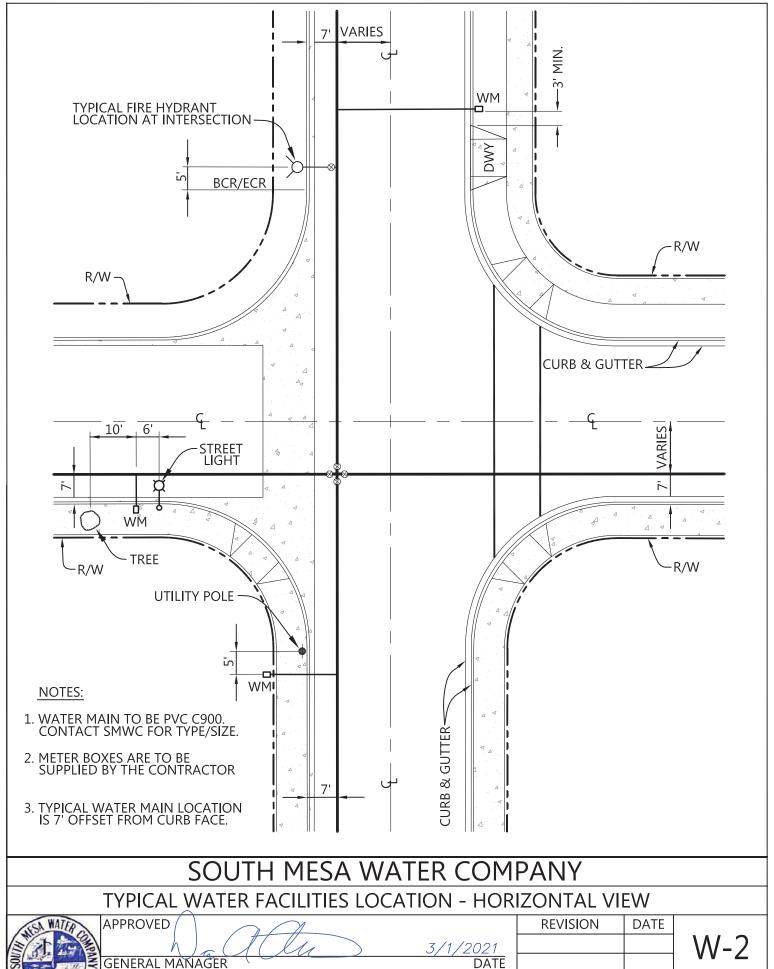
PLAN LEGEND

	WATER PROPOSED
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—————————————————————————————————————	GATE VALVE
	SERVICE LATERAL
S	EXISTING SEWER
G	EXISTING GAS LINE
	EXISTING WATER LINE
—··—··— E. OR T. —··—··—	ELECTRICAL AND TELEPHONE CONDUIT EXISTING
)	POWER POLE AND GUY LINE
	TRAFFIC SIGNAL EXISTING
\bigcirc	WATER WELL - PROVIDE DISTANCE TO SEWERS
\otimes —	FIRE HYDRANT
\otimes —— \bigcirc	BLOW - OFF
	AIR & VACUUM VALVE ASSEMBLY (SIZE PER PLAN)

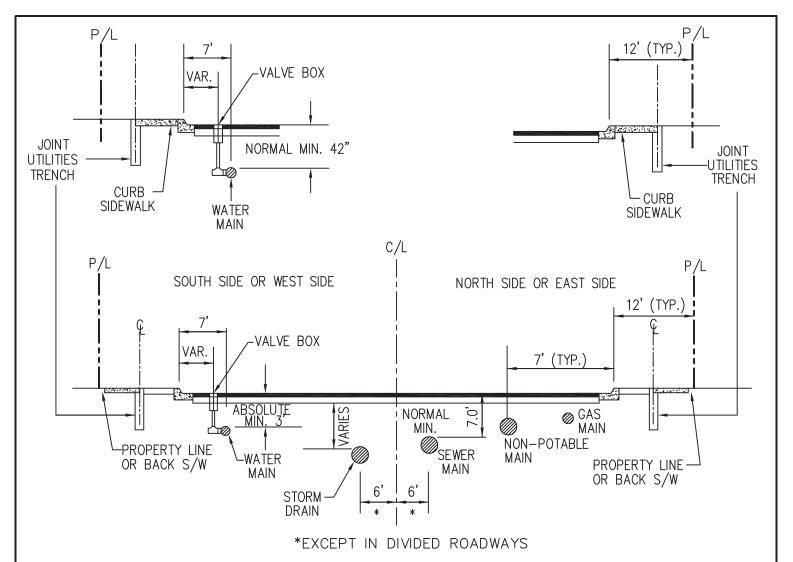
SOUTH MESA WATER COMPANY

LEGEND OF SYMBOLS

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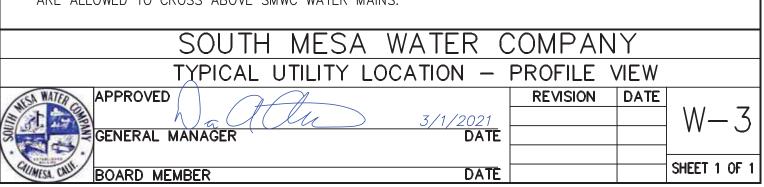


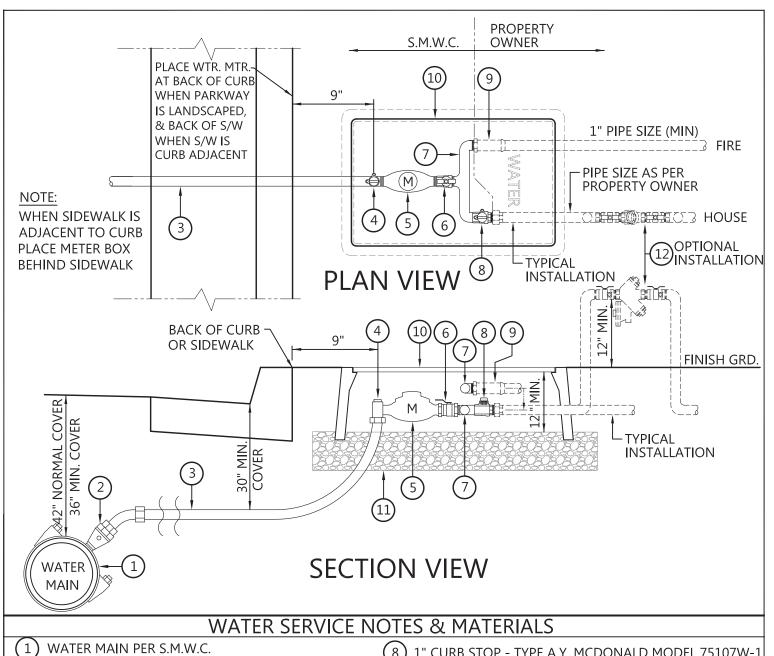
SHEET 1 OF 1 DATE **BOARD MEMBER**



NOTES:

- 1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE DEVELOPER AND SHOWN ON PLANS SUBMITTED TO THE WATER COMPANY FOR APPROVAL.
- 2. FOR COMMERCIAL DEVELOPMENTS, THE FIRE HYDRANT SHALL BE PLACED WITHIN THE SIDEWALK A MINIMUM OF 2 FEET TO THE CENTERLINE OF BARREL BEHIND FACE OF CURB.
- 3. ANY CHANGES IN THE STANDARD LOCATION OF PROPOSED WATER FACILITIES SHALL BE PRE-APPROVED BY THE WATER COMPANY PRIOR TO CONSTRUCTION.
- 4. ANY CONFLICTS BETWEEN UTILITY COMPANIES FACILITIES, EXISTING AND PROPOSED, MUST BE RESOLVED BY THE UTILITY COMPANIES.
- 5. NO PLACEMENT OF NEW WATER MAINS ARE ALLOWED IN LANDSCAPE AREAS OR BELOW CONCRETE CURBS OR SIDEWALKS. NO NEW LANDSCAPE AREAS, CONCRETE CURBS OR SIDEWALKS ARE ALLOWED ABOVE EXISTING WATER MAINS. NO NEW STORM DRAINS, SEWER MAIN, OR NON-POTABLE WATER MAINS ARE ALLOWED TO CROSS ABOVE SMWC WATER MAINS.





CORPORATION STOP

2

3 1-1/4" (COPPER TUBE SIZE) MUNICIPEX (PEXa) SDR-9 TUBING (AWWA C-904 COMPLIANT), & PLACE #14 GA. COATED TRACER WIRE. NOTE: ALL EXISTING SERVICES REQUIRING EXTENSION OR REPLACEMENT SHALL BE INSTALLED FROM THE MAIN TO THE METER.

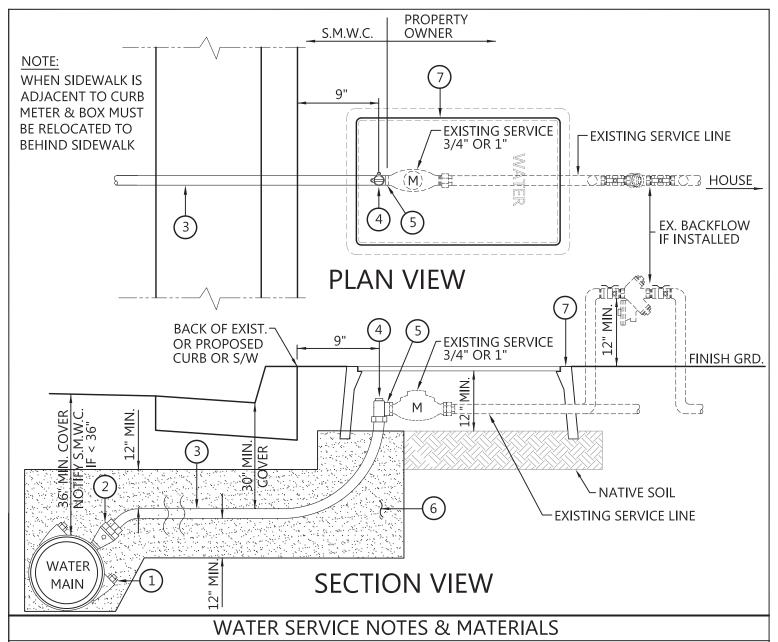
- ig(4ig) 1" ANGLE METER VALVE TYPE PER S.M.W.C.
- (5) 1" WATER METER TYPE PER S.M.W.C.
- (6) 1" LOCK WING BALL METER VALVE PER S.M.W.C.
- MODEL 708UMM 1" x 1" x 7.5" A.Y. MCDONALD U-BRANCH ASSEMBLY OR EQUAL

- 8 1" CURB STOP TYPE A.Y. MCDONALD MODEL 75107W-1 BALL VALVE OR EQUAL
- 9 OWNER SUPPLIED 1" ZURN/WILKINS MODEL 700XL OR EQUAL DUAL CHECK VALVE ASSEMBLY
- 10) METER BOX J&R CONCRETE PRODUCTS MODEL P-W6B SPECIAL SERIES CONC. METER (22"Wx34"Lx12"D) BOX W/2-PC POLYMER CONCRETE COVER & LID (CONTRACTOR SUPPLIED)
- PLACE MINIMUM 6" THICK LAYER OF 3/4" CRUSHED ROCK BASE AND EMBED METER BOX INTO ROCK.
- (12) OPTIONAL INSTALLATION: KEEPING OF LARGE ANIMALS REQUIRES THE INSTALLATION OF AN APPROVED ABOVE GROUND, REDUCED PRESSURE BACKFLOW ASSEMBLY. CONTACT S.M.W.C. FOR DETAILS.

SOUTH MESA WATER COMPANY

RESIDENTIAL 1" COMBINATION WATER & FIRE SERVICE CONNECTION

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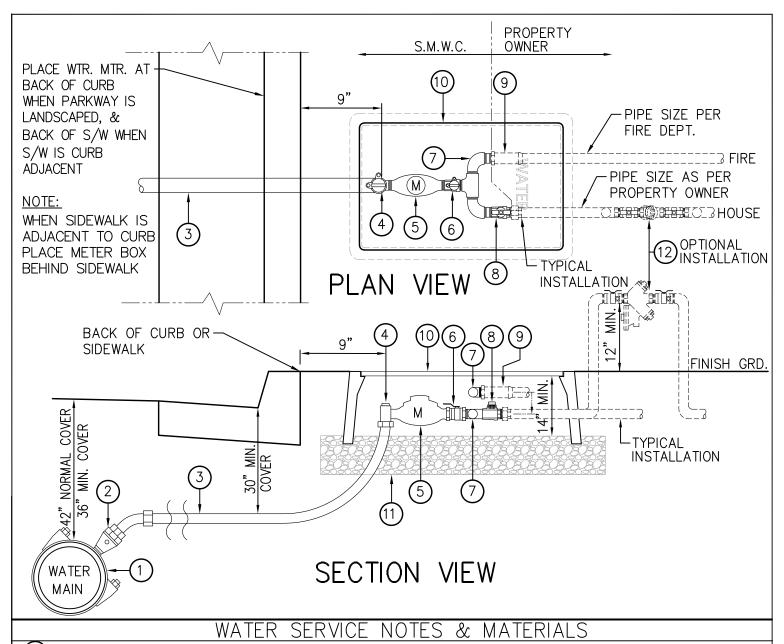
- 1 TAPPING SADDLE MAIN SIZE x 1"
- (2) CORPORATION STOP
- 3 1-1/4" (COPPER TUBE SIZE) MUNICIPEX (PEXa) SDR-9 TUBING (AWWA C-904 COMPLIANT), & PLACE #14 GA. COATED TRACER WIRE. NOTE: ALL EXISTING SERVICES REQUIRING EXTENSION OR REPLACEMENT SHALL BE INSTALLED FROM THE MAIN TO THE METER.
- (4) 1" ANGLE METER VALVE TYPE PER S.M.W.C.
- (5) 1" x 3/4" METER BUSHING PER METER SIZE
- (6) SAND BACKFILL

METER BOX - IF RELOCATION IS REQUIRED, OR IF DAMAGED, REPLACE WITH APPLIED ENGINEERING PRODUCTS (AEP) MODEL 1320 1G2G 13"W x 20"L x 12"D, TOP COVER MARKED "WATER" - COLOR GREEN, (CONTRACTOR SUPPLIED). NOTE: METER BOXES ARE REQUIRED TO BE SET BEHIND SIDEWALK, OR BEHIND CURB IN PARKWAY AREA. NO BOXES TO BE PLACED ON CONCRETE OR ASPHALT SURFACES.

SOUTH MESA WATER COMPANY

3/4" & 1" REPLACEMENT OF EXISTING SERVICE FROM MAIN TO METER

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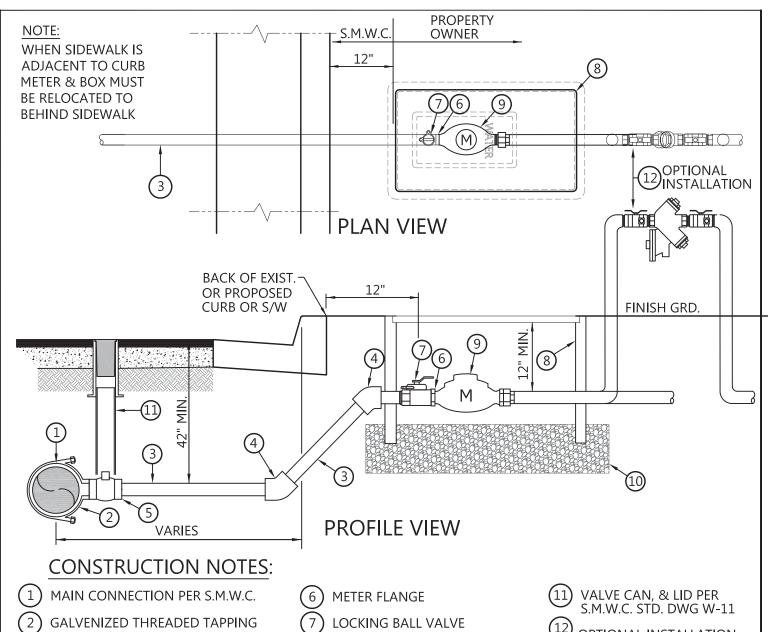
- 1) WATER MAIN PER S.M.W.C.
 -) CORPORATION STOP
- 3 2" (COPPER TUBE SIZE) MUNICIPEX (PEXa) SDR—9
 TUBING (AWWA C—904 COMPLIANT), & PLACE #14 GA.
 COATED TRACER WRE. NOTE: ALL EXISTING SERVICES
 REQUIRING EXTENSION OR REPLACEMENT SHALL BE
 INSTALLED FROM THE MAIN TO THE METER.
- (4) 2" ANGLE METER VALVE TYPE PER S.M.W.C.
- (5) 1.5" WATER METER TYPE PER S.M.W.C.
- $\stackrel{\textstyle ullet}{\scriptstyle 6}$ 1.5" LOCK WING BALL METER VALVE PER S.M.W.C.
- 7) 1.5" TEE & 2 EA. 1.5" 90° ELBOWS TO FORM U-BRANCH

- 8 1.5" CURB STOP TYPE A.Y. MCDONALD MODEL BALL VALVE OR EQUAL
- 9 OWNER SUPPLIED 1.5" ZURN/WILKINS MODEL OR EQUAL DUAL CHECK VALVE ASSEMBLY
- (10) METER BOX J&R CONCRETE PRODUCTS MODEL W8B SPECIAL SERIES CONC. METER (39"Wx54"Lx14"D) BOX W/CONCRETE COVER & LID, OR EQUAL (CONTRACTOR SUPPLIED).
- PLACE MINIMUM 6" THICK LAYER OF 3/4" CRUSHED ROCK BASE AND EMBED METER BOX INTO ROCK.
 - OPTIONAL INSTALLATION: KEEPING OF LARGE ANIMALS REQUIRES THE INSTALLATION OF AN APPROVED ABOVE GROUND, REDUCED PRESSURE BACKFLOW ASSEMBLY. CONTACT S.M.W.C. FOR DETAILS.

SOUTH MESA WATER COMPANY

RESIDENTIAL 1.5" COMBINATION WATER & FIRE SERVICE CONNECTION

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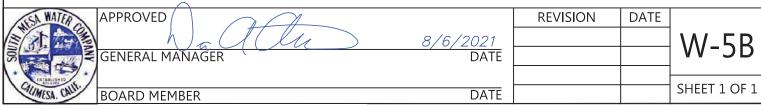


- SADDLE (SIZE PER METER)
- **GALVANIZED STEEL PIPE**
- THREADED 45° BEND
- CORP STOP (SIZE PER METER)
 - **NOTES:**
- 1. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY DEVELOPER.
- SERVICE SIZE SHALL BE DESIGNATED ON PLAN.
- 3. NO METER SHALL BE INSTALLED CLOSER THAN 3' FROM DRIVEWAY APRONS.

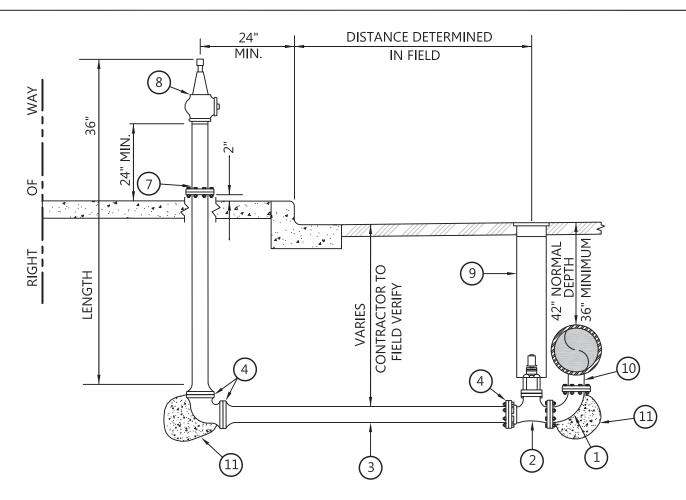
- 16"x 24" CONCRETE METER BOX
- METER (TYPE PER SMWC)
- PLACE MINIMUM 6" THICK LAYER OF 3/4" CRUSHED ROCK BASE AND EMBED METER BOX INTO ROCK.
- 4. ALL STEEL THREADS TO BE COATED WITH BITUMASTIC BEFORE BACKFILLING.
- 5. INSTALLATION SHALL BE TESTED TO ASSURE NO LEAKS.
- 6. USE COMPOUND METER ON DOMESTIC OR COMMERCIAL SERV.
- **OPTIONAL INSTALLATION:** KEEPING OF LARGE ANIMALS REQUIRES INSTALLATION OF AN APPROVED ABOVE GROUND, REDUCED PRESSURE BACKFLOW ASSEMBLY. CONTACT S.M.W.C. FOR DETAILS.
 - 7. USE TURBINE METER FOR IRRIGATION

MESA WATER COMPANY

WATER SERVICE INSTALLATION



NOTES: MUELLER SUPER CENTURIAN 250 MODEL 423, 5-1/4" MAIN 1. SLOPE OF LATERAL MAY VARY FROM GATE VALVE TO FIRE HYDRANT RISER TO PROVIDE A PLUMB RISER AND THE REQUIRED VALVE, 6" MJ SHOE INLET ELEVATIONS AND DISTANCES. 2. THE EXTERIOR OF THE FIRE HYDRANT ASSEMBLY SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER FROM ONE 24" FOOT BELOW GROUND SURFACE TO THE UPPER MOST PART OF THE ASSEMBLY. THEN PAINTED ONE COAT OF RED LEAD PRIMER AND ONE COAT OF SMWC YELLOW ENAMEL. 3. CONTRACTOR SHALL INSTALL FIRE HYDRANT ASSEMBLY AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE WATER COMPANY. 4. WITHIN EXISTING PAVEMENT, TOP OF VALVE CAN & COVER TO BE EVEN WITH TOP OF PAVEMENT. 5. WHERE NO CURB EXISTS, CONTRACTOR SHALL PROVIDE TWO PIPE BARRICADES PER STD. DWG. W-5. THE LOCATION OF THE FIRE **BREAK-AWAY** HYDRANT & BARRICADES SHALL BE AS DIRECTED BY THE WATER **BOLTS** COMPANY. 6. ANY COATING REMOVED OR DAMAGED SHALL BE REPAIRED WITH LIKE MATERIAL. **BURY** 7. RESTRAINTS REQUIRED ON ALL MECHANICAL JOINTS. LINE 9 **FINISHED SURFACE** OR GRADE \mathbf{T} 8 Ш 5 8 **VARIES CONSTRUCTION NOTES:** WATER MAIN FIRE HYDRANT ASSEMBLY (WEEP HOLES PLUGGED) 6" PVC C900 DR14 PIPE MAIN CONNECTION PER S.M.W.C. STD.S **6" GATE VALVE** THRUST BLOCK PER **6" RESTRAINT** S.M.W.C. STD DWG'S. ADJUSTABLE VALVE CAN & LID PER S.W.W.C. STD. DWG. W-11 6" M.J. SHOE INLET SOUTH MESA WATER COMPANY DRY BARREL FIRE HYDRANT ASSEMBLY APPROVED **REVISION** DATE W-6 3/1/2021 GENERAL MANAGER DATE SHEET 1 OF 1 DATE **BOARD MEMBER**



CONSTRUCTION NOTES:

- 1) 4" X 90° BEND
- (2) 4" GATE VALVE
- (3) 4" PVC C900 DR 14 PIPE
- (4) 4" M.J RESTRAINT (MEGALUG OR EQUAL)
- (5) INTENTIONALLY LEFT BLANK
- 6 4" FLANGE
- (7) MUELLER DRY BARREL
- (8) 4" x 2-1/2" F.H. HEAD
- (9) VALVE CAN AND COVER PER S.M.W.C. STD. DWG. W-11
- (10) WATER MAIN \times 4" CONNECTION
- 11) THRUST BLOCK, PER S.M.W.C. STANDARD DWG. W-16.

NOTES:

- 1. TO BE USED AT DEAD-ENDS AND LOW POINTS. LOCATIONS SHOULD BE IDENTIFIED AS A FLUSHING POINT ON THE DRAWINGS.
- 2. THIS STANDARD TO BE USED UNLESS SPECIFIED PIPE LOCATION IS DEEPER THAN 42".

SOUTH MESA WATER COMPANY

4" BLOW-OFF ASSEMBLY FOR MAINS 4" - 10"

APPROVED

GENERAL MANAGER

BOARD MEMBER

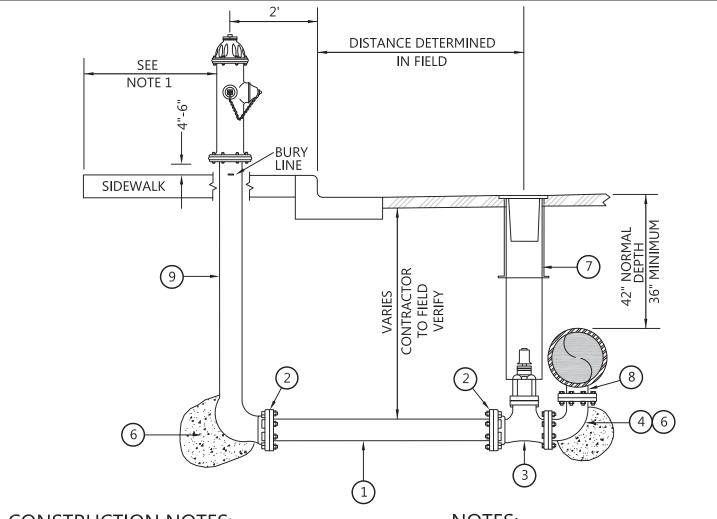
A" BLOW-OFF ASSEMBLY FOR MAINS 4" - 10"

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SHEET 1 OF 1



CONSTRUCTION NOTES:

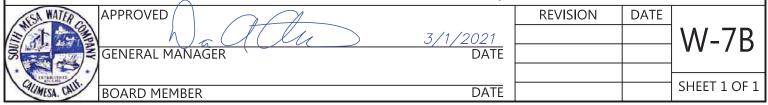
- (1) 6" PVC C900 DR 14 PIPE
- (2) 6" RESTRAINT (MEGALUG OR EQUAL)
- (3) 6" GATE VALVE
- (4) 6" x 90° BEND
- (5) 6" ADAPTER
- (6) THRUST BLOCK, PER S.M.W.C. STD. DWG. W-16.
- (7) VALVE CAN AND COVER PER S.M.W.C. STD. DWG. W-11.
- (8) tee, water main size x 6" connection
- 9 FIRE HYDRANT ASSEMBLY, PER S.M.W.C. STANDARD DWG. W-6.

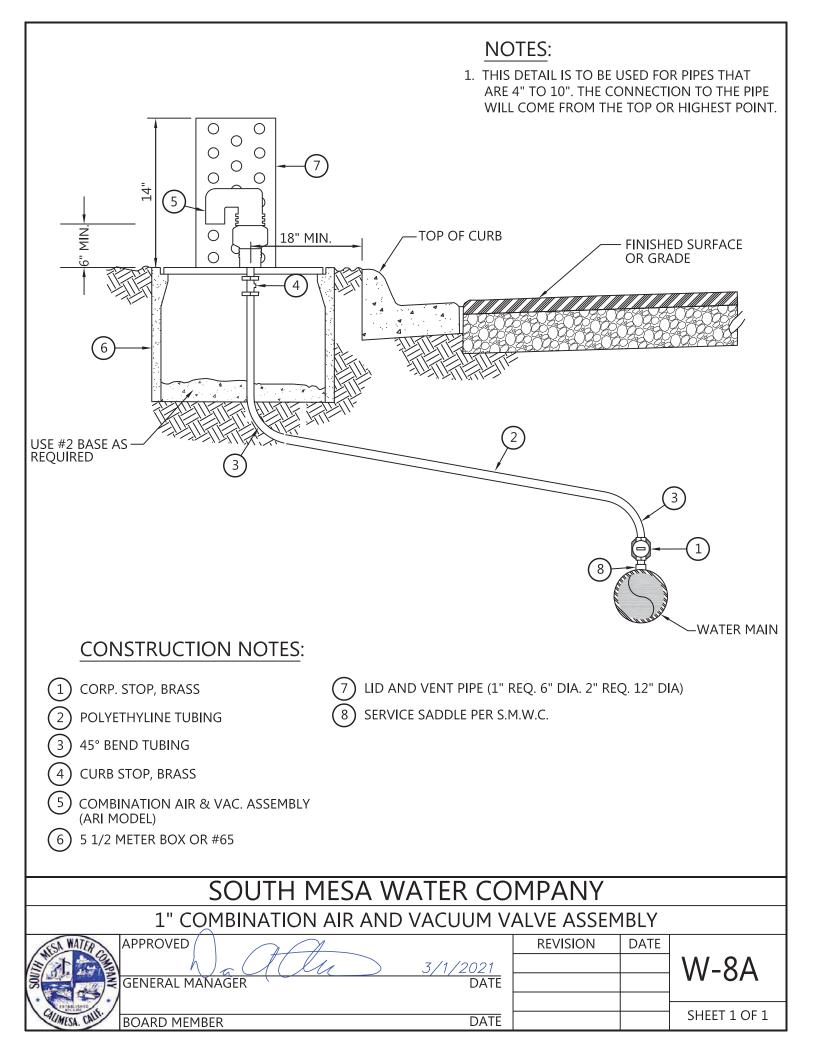
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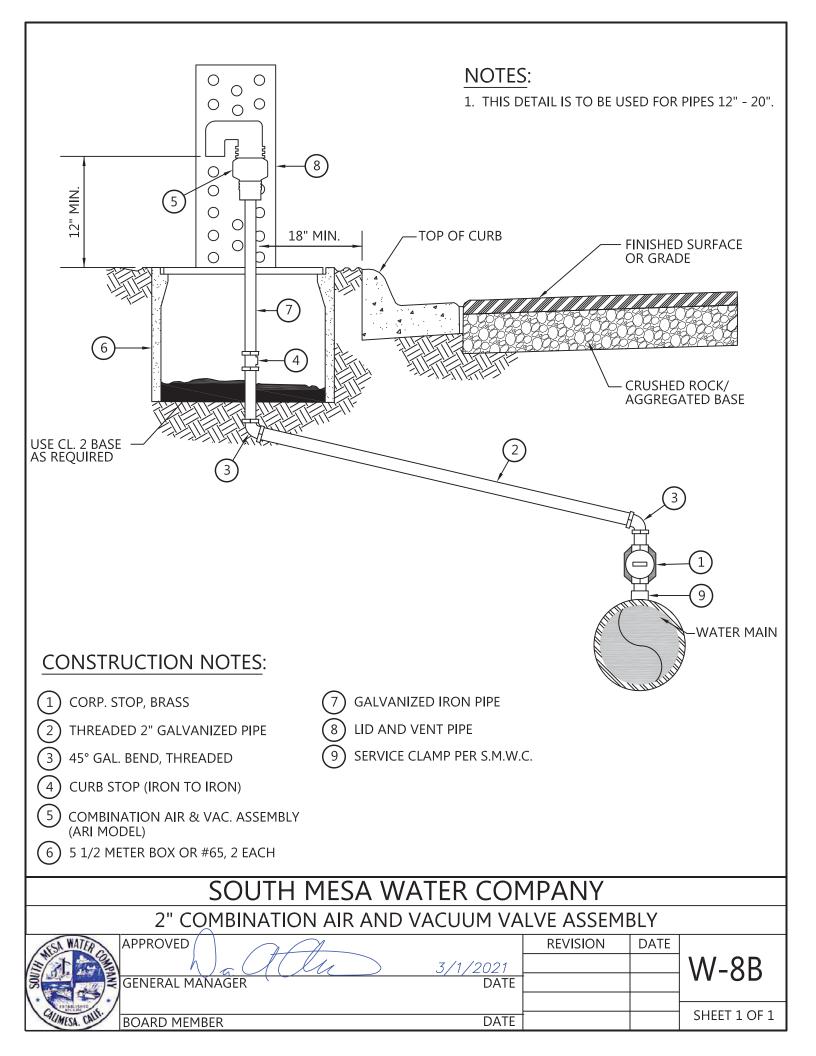
- 1. IF 4'-0" CLEAR IS NOT POSSIBLE, PLACE BLOW OFF 2'-0" BEHIND SIDEWALK IN PARKWAY. INSTALL 18" SQ. x 6" CONC. COLLAR AT GRADE IF BLOW OFF IS NOT INSTALLED IN SIDEWALK.
- 2. THE CONTRACTOR SHALL INSTALL 2
 BOLLARDS ON THE STREET SIDE OF THE
 BLOW OFF AT 4' O/C IF INSTALLED IN
 UNIMPROVED AREAS.
- 3. THIS STANDARD TO BE USED UNLESS SPECIFIED PIPE LOCATION IS DEEPER THAN 42".
- 4. TO BE USED AT DEAD ENDS AND LOW POINTS AND IDENTIFIED AS A FLUSHING POINT ON THE DRAWINGS.

SOUTH MESA WATER COMPANY

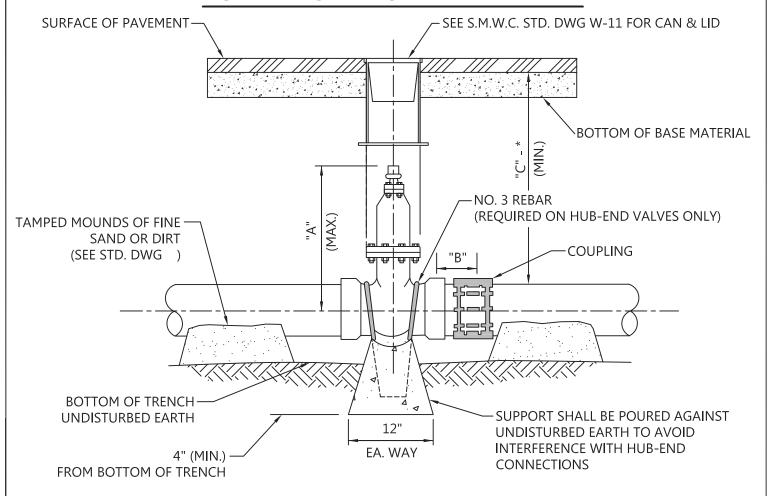
6" BLOW-OFF FOR MAINS 12" - 16" W/DRY BARREL







P.V.C., & D.I.P. PIPELINE INSTALLATION FOR PIPES 4" TO 12" DIAMETER



NOTES:

- 1. ALL FLEXIBLE JOINTS IN PIPELINES UPSTREAM FROM VALVES OR IN BRANCH LINE SHALL BE WELDED OR RESTRAINED IN ACCORDANCE WITH THE SPECIFICATIONS AND CONTRACT DRAWINGS TO PROVIDE ANCHORAGE FOR UNBALANCED FORCES.
- 2. ALL STEEL FLANGES SHALL BE COATED IN FIELD WITH AN APPROVED COATING PER S.M.W.C. SPECIFICATIONS.
- 3. ALL STEEL PIPE AND FITTINGS SHALL BE COATED WITH THE SAME MATERIAL AS SUPPLIED ON THE PIPE.

* - FROM TOP OF F.S., NORMAL COVER IS 42", MINIMUM 36"

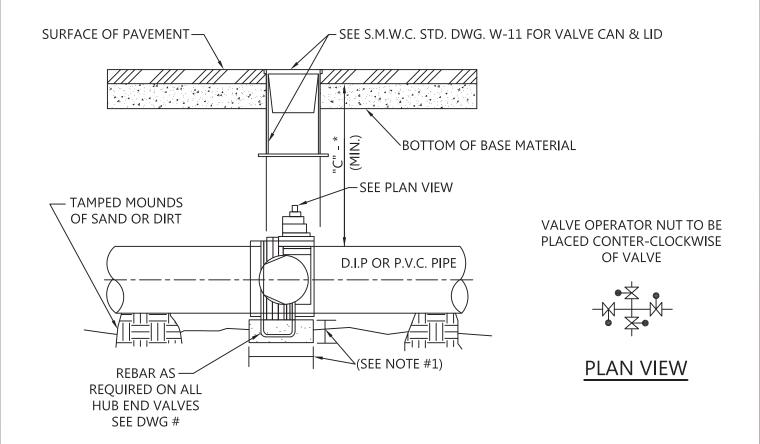
	TABULATED DIMENSIONS					
GATE		DIMENSIONS				
VALVE	VALVE	COUPLING	ABS. MIN.			
SIZE	HEIGHT	NIPPLE	COVER			
	"A"	"A"				
4"	19"	1'-6"	1'-7"			
6"	23"	1'-6"	1'-9"			
8"	28"	1'-6"	2'-0"			
10"	31"	1'-6"	2'-4"			
12"	36"	2'-0"	2'-8"			

SOUTH MESA WATER COMPANY

VALVE INSTALLATION - RESILIENT WEDGE GATE VALVES FOR MAINS 4"-12"

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SHEET 1 OF 1
- 51

P.V.C. OR D.I.P. PIPELINE INSTALLATION



NOTES:

- 1. ALL FLEXIBLE JOINTS IN PIPELINES FROM VALVES OR IN BRANCH LINES SHALL BE WELDED OR RESTRAINED TO PROVIDE ANCHORAGE FOR UNBALANCED FORCES.
- 2. CONCRETE SUPPORTS TO AVOID INTERFERENCE WITH BOLTED OR HUB END CONNECTIONS SHALL BE POURED AGAINST UNDISTURBED EARTH.
- 3. ALL STEEL FLANGES SHALL BE PRIMED AND COATED PER S.M.W.C. SPECIFICATIONS.
- 4. ALL STEEL PIPE AND FITTINGS SHALL BE COATED WITH THE SAME MATERIAL AS SUPPLIED ON THE PIPE.

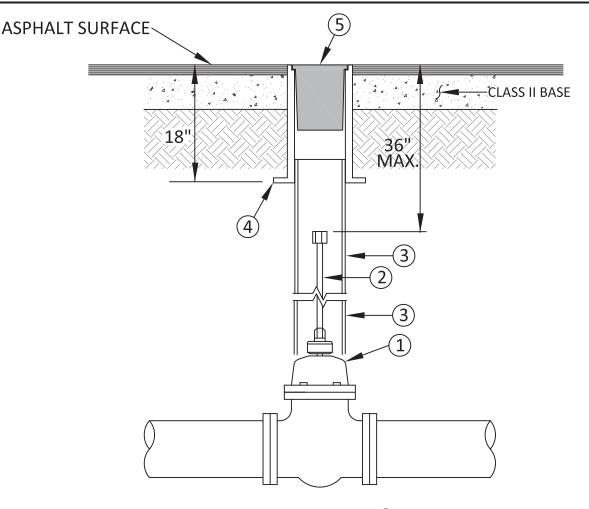
* - FROM TOP OF F.S., NORMAL COVER IS 42", MINIMUM 36"

	TABULATED DIMENSIONS			
VALVE	DIMENSIONS			
SIZE	VALVE	COUPLING	ABS. MIN.	
	HEIGHT	NIPPLE	COVER	
	"A"	"B"	"C"	
4"	19"	1'-6"	1'-7"	
6"	23"	1'-6"	1'-9"	
8"	28"	1'-6"	2'-0"	
10"	31"	1'-6"	2'-4"	
12"	36"	2'-0"	2'-8"	

SOUTH MESA WATER COMPANY

VALVE INSTALLATION - BUTTERFLY VALVES - MAINS 12 - 20"

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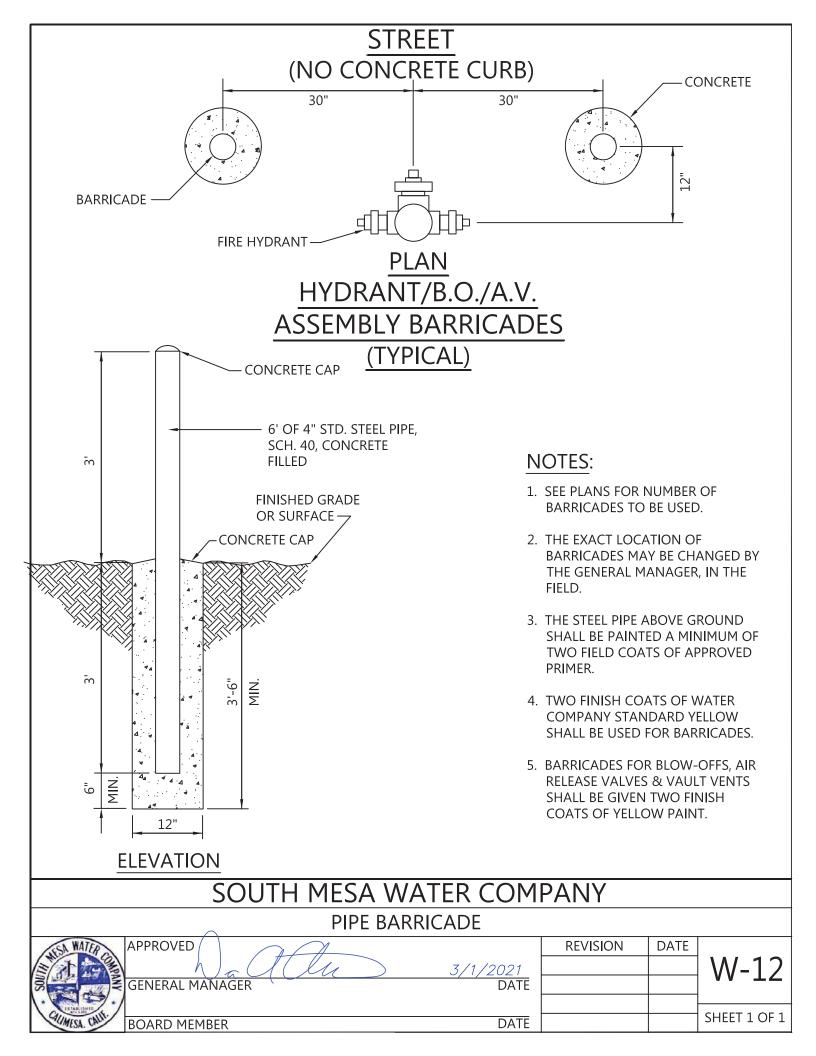
VALVE CAN & LID

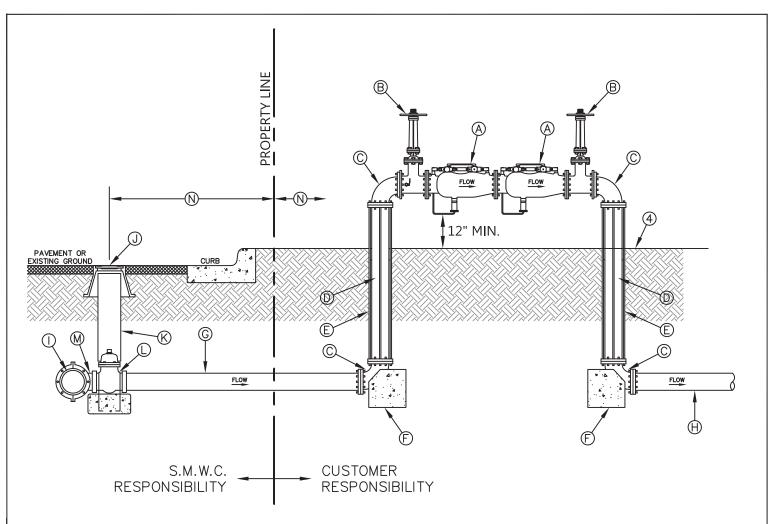
KEY NOTES:

- 1. VALVE TYPE AND VALVE ENDS SHALL BE AS INDICATED ON THE PLANS.
- 2. ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
- 3. 8" DIA. SDR-35, CUT TO LENGTH WITHIN 6" OF FINAL GRADE.

- 4. 8" DIA. x 18" SLIP CAN (GALVENIZED)
- 5. 8" STEEL LID AT GRADE, PAINTED SAFETY BLUE (2 COATS) TOP OF CAN STAMPED "WATER".

SOUTH MESA WATER COMPANY VALVE CAN INSTALLATION APPROVED GENERAL MANAGER BOARD MEMBER APPROVED APPROVED BOARD MEMBER APPROVED APPROVED BOARD MEMBER APPROVED APPROVED BOARD MEMBER APPROVED BOARD MEMBER BOARD MEMBER APPROVED BOARD MEMBER BOARD MEMBER





GENERAL NOTES:

- 1. DETAIL IS FOR 4", 6", & 8" FIRE METER SERVICES.
- 2. THE WATER COMANY SHALL PROVIDE SERVICE EXTENDED ONLY UP TO THE PROPERTY LINE. DETECTOR CHECKS, ENCLOSURE IF ANY, & ALL ASSOCIATED PIPING SHALL BE THE RESPONSIBILITY OF THE OWNER.

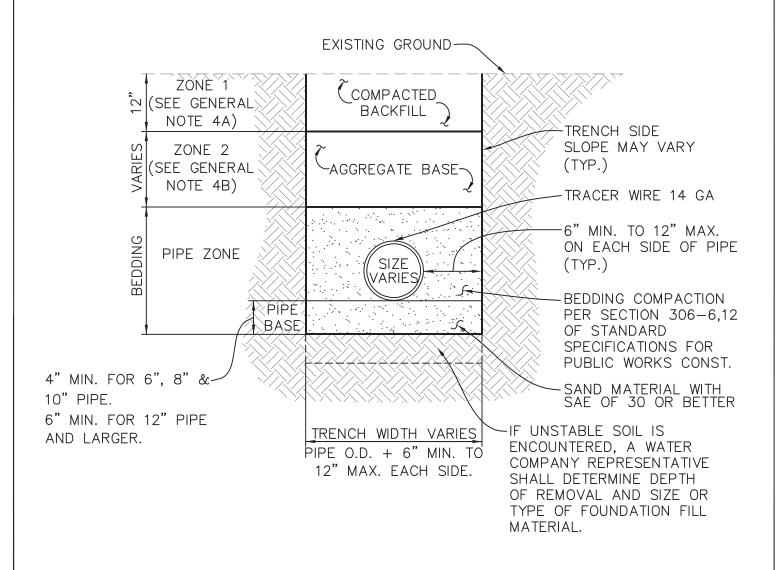
CONSTRUCTION KEY NOTES:

- A. AMES OR APPROVED EQUAL DETECTOR CHECK BACKFLOW ASSEMBLY.
- B. FLANGED GATE VALVE.
- C. 90° FLANGED BEND DUCTILE IRON.
- D. DUCTILE IRON
- E. THRUST RESTRAINT RODS (PER NFPTA 24).
- F. CONCRETE THRUST BLOCK.
- G. PV.C. C900 DR 14 OR D.I.P. PIPE
- H. PER OWNERS/DEVLOPERS PLANS.
- I. WATER MAIN PER S.M.W.C. STD'S. & SPECS.
- J. VALVE BOX AND COVER PER SMWC STD. SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE.
- K. 8" PIPE RISER.
- L. GATE VALVE WITH CONCRETE ANCHOR
- M. TEE @ MAIN LINE PER S.M.W.C. STD.S & SPECS.
- N. DISTANCES VARY.

SOUTH MESA WATER COMPANY

4" TO 12" DOUBLE DETECTOR CHECK - FIRE SERVICE CONNECTION

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SEE SHEETS 2 FOR GENERAL NOTES.

THIS STANDARD SHALL BE USED FOR WORK BEING PERFORMED WITH NO PAVED SURFACE.

SOUTH MESA WATER COMPANY TRENCH BACKFILL DETAIL APPROVED **REVISION** DATE W - 143/1/2021 GENERAL MANAGER DATE SHEET 1 OF 2

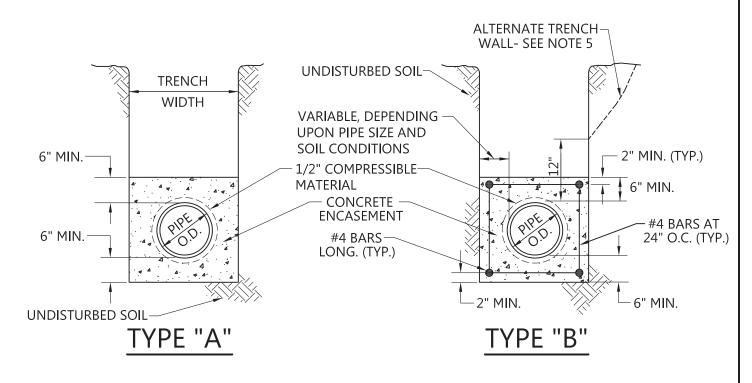
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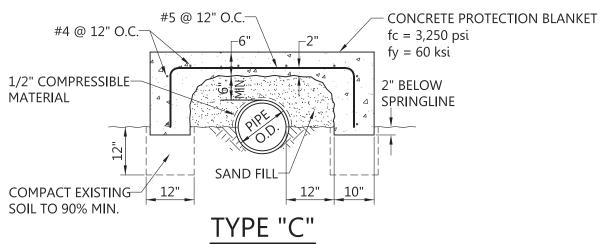
BOARD MEMBER

GENERAL NOTES:

- 1. ALL WORK WILL BE PERFORMED AT THE DIRECTION OF SOUTH MESA WATER COMPANY IN CONJUNCTION WITH ITS ANNUAL MAINTENANCE AND EMERGENCY WORK PERMIT.
- 2. UNDERGROUND SERVICE ALERT SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO START OF WORK, WHENEVER POSSIBLE. CALL 811.
- 3. ALL EXCAVATIONS SHALL BE MADE, PROTECTED, AND SUPPORTED AS REQUIRED FOR SAFETY AND IN THE MANNER SET FORTH IN THE OPERATIONS RULES, ORDERS, AND REGULATIONS PRESCRIBED BY THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY.
- 4. A) BACKFILL IN ZONE 1 SHALL CONSIST OF PROPERLY COMPACTED BACKFILL WITH NATIVE MATERIALS.
 - B) BACKFILL IN ZONE 2 SHALL CONSIST OF CLASS II BASE (3/4" MAX.) COMPACTED TO 90% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 12".
 - C) BEDDING SHALL BE PER PLANS AND SPECIFICATIONS, AND SHALL ONLY EXTEND 12" ABOVE THE TOP OF THE PIPELINE OR CONDUIT.
 - D) NO JETTING OR FLOODING OF BACKFILL MATERIAL WILL BE ALLOWED.
- 5. IF TRENCH FAILURE SHOULD OCCUR, THE PERMITEE WILL BE NOTIFIED OF SUCH DEFICIENCIES AND ALLOWED TO REMOVE, REPLACE, OR REMEDY HIS WORK.

SOUTH MESA WATER COM	IPANY			
TRENCH BACKFILL DETAIL				
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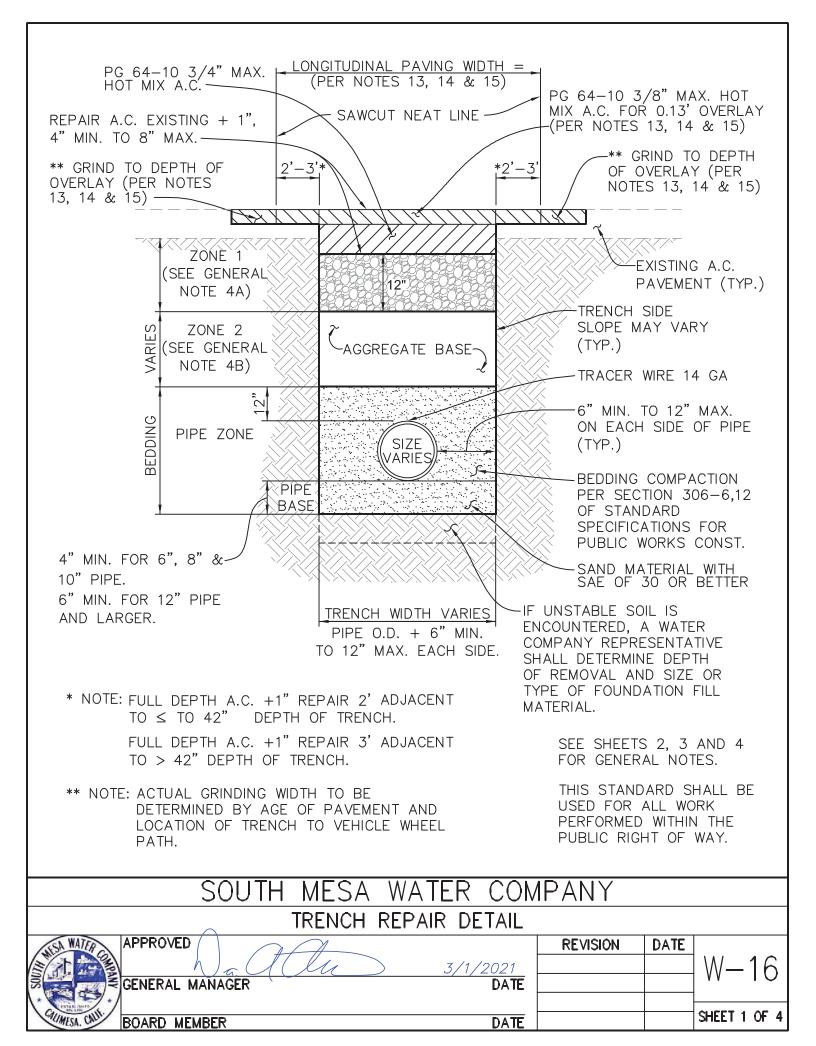




NOTES:

- 1. CONCRETE ENCASEMENT SHALL BE USED WHEN COVER IS LESS THAN 36" OR AS DETERMINED BY S.M.W.C..
- 2. ENCASEMENT TO BE PLACED AGAINST UNDISTURBED NATURAL GROUND OR FILL COMPACTED TO 90% RELATIVE DENSITY.
- 3. NO. 4 AND NO. 5 STEEL REINFORCING BARS SHALL BE USED AS SPECIFIED.
- 4. TYPE OF CONCRETE ENCASEMENT TO BE USED WILL BE SHOWN ON PLANS OR AS SPECIFIED BY S.M.W.C. FIELD REPRESENTATIVE TO MEET UNFORESEEN FIELD CONDITIONS. UNLESS NOTED OTHERWISE, ENCASEMENT SHALL BE CLASS "B" CONCRETE.
- 5. WHERE SLOPED TRENCHES ARE USED, WALLS WILL NOT BEGIN TO SLOPE CLOSER THAN 12" FROM THE TOP OF THE PIPE.

SOUTH MESA WATER COMPANY CONCRETE ENCASEMENT TYPE A, B & C APPROVED APPROVED GENERAL MANAGER BOARD MEMBER APPROVED BOARD MEMBER APPROVED APPROVED APPROVED BOARD MEMBER BOARD MEMB



- 1. ALL EXCAVATION WITHIN THE CITY RIGHT-OF-WAY PERFORMED BY THE CONTRACTOR REQUIRES AN EXCAVATION PERMIT FROM THE ENGINEERING DEPARTMENT. ALL WORK BEING PERFORMED BY SOUTH MESA WATER COMPANY WILL BE PERFORMED IN CONJUNCTION WITH ITS ANNUAL MAINTENANCE AND EMERGENCY WORK PERMIT OR SPECIFIC WORK PERMIT PROVIDED TO THE ENGINEERING DEPARTMENT.
- 2. UNDERGROUND SERVICE ALERT SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO START OF WORK. CALL 811.
- 3. ALL EXCAVATIONS SHALL BE MADE, PROTECTED, AND SUPPORTED AS REQUIRED FOR SAFETY AND IN THE MANNER SET FORTH IN THE OPERATIONS RULES, ORDERS, AND REGULATIONS PRESCRIBED BY THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY.
- 4. A) BACKFILL ZONE 1 SHALL CONSIST OF CLASS II CRUSHED AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 6".
 - B) BACKFILL IN ZONE 2 SHALL CONSIST OF CLASS II BASE (3/4" MAX.) COMPACTED TO 90% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 12".
 - C) BEDDING SHALL BE PER PLANS AND SPECIFICATIONS, AND SHALL ONLY EXTEND 12" ABOVE THE TOP OF THE PIPELINE OR CONDUIT.
 - D) NO JETTING OR FLOODING OF BACKFILL MATERIAL WILL BE ALLOWED.
- 5. A MINIMUM 2-INCH THICKNESS OF TEMPORARY ASPHALT PAVING SHALL BE PLACED WITHIN THE TRENCH AREA IMMEDIATELY, UNTIL PERMANENT REPAIR IS COMPLETED. THE TEMPORARY PAVING SHALL BE PLACED AND COMPACTED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH TRAVELED SURFACE, FLUSH WITH THE SURROUNDING PAVEMENT. PERMITTEE SHALL MAINTAIN THE TEMPORARY PAVEMENT IN A SAFE AND SMOOTH CONDITION UNTIL PERMANENT PAVEMENT IS IN PLACE.
- 6. PRIOR TO PLACEMENT OF PERMANENT PAVING, EXISTING PAVEMENT SHALL BE GROUND TO THE APPROPRIATE SAWCUT WIDTH PER NOTES 13, 14 & 15. PAVEMENT CRACKED ADJACENT TO THE TRENCH SHALL BE REMOVED.
- 7. ALL EDGES OF EXISTING PAVEMENT BEING JOINED AND SURFACE BEING OVERLAID SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION.
- 8. TRENCHES OF 300 FEET OR MORE SHALL BE PAVED WITH A SELF-PROPELLED PAVING MACHINE.
- 9. ANY STREET PAVED WITH ASPHALT CONCRETE IN THE PREVIOUS 60 MONTHS OR RESURFACED WITH AN ASPHALTIC EMULSION (SLURRY AND CAPE SEALS) IN THE PREVIOUS 36 MONTHS, WHERE THE TRENCH EXTENDS FROM THE CURB MORE THAN 5 FEET (INCLUDING SERVICE CONNECTIONS AND METER INSTALLATIONS) OR IS IN A TRAVELED LANE, WILL REQUIRE AN OVERLAY OR SLURRY SEAL 25 FEET IN BOTH DIRECTIONS FROM THE CENTERLINE OF TRENCH. OTHER TRENCHES LESS THAN 5 FEET FROM CURB OR WITHIN A STREET THAT WAS LAST PAVED GREATER THAN 60 MONTHS OR SEALED GREATER THAN 36 MONTHS SHALL BE REPAIRED PER NOTES 13, 14 & 15.

SOUTH MESA WATER COM	IPANY		
TRENCH REPAIR DETAIL			
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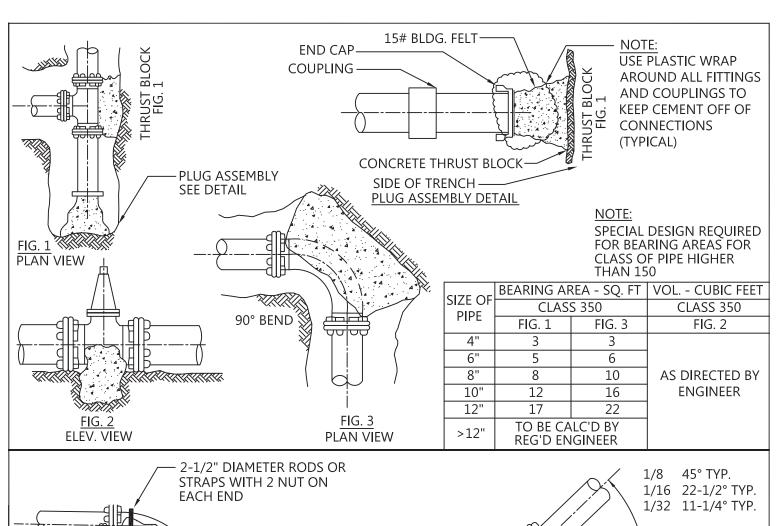
- 10. IF TRENCH FAILURE SHOULD OCCUR, THE PERMITEE/DEVELOPER WILL BE NOTIFIED OF SUCH DEFICIENCIES AND ALLOWED TO REMOVE, REPLACE, OR REMEDY HIS WORK. UPON FAILURE OF THE CONTRACTOR TO PROMPTLY COMPLY AND UNDER ORDER OF THE CITY ENGINEER, TRENCH FAILURES SHALL BE REMEDIED, REMOVED, REPLACED BY THE CITY AT PERMITTEE/DEVELOPER SOLE EXPENSE.
- 11. THE CITY MAY HAVE ADDITIONAL REQUIREMENTS, PLACED ON THE PERMIT, FOR EXCAVATIONS WITHIN YUCAIPA BOULEVARD, OAK GLEN ROAD, BRYANT STREET, CALIFORNIA STREET, WILDWOOD CANYON ROAD, CALIMESA BOULEVARD, 5TH STREET, AVENUE E AND COUNTY LINE ROAD.
- 12. WHEN TRENCH EXTENDS UNDER CURB, TRENCH SHALL BE BACKFILLED WITH AGGREGATE BASE FROM BACK OF CURB TO ONE FOOT (1') BEYOND LIP OF GUTTER AND FILL TO SUBGRADE ELEVATION.
- 13. ARTERIAL STREET MAINLINE TRENCH STANDARD:
 - A. IF THE TRENCH IS IN THE OUTSIDE LANE, THE WHOLE LANE AND BIKE LANE SHALL BE GROUND AND OVERLAID WITH 1-1/2" PAVING.
 - B. IF THE TRENCH IS IN AN INSIDE LANÉ, ONLY THE LANE WIDTH SHALL BE GROUND AND OVERLAID WITH 1-1/2" PAVING.
 - C. IF THE TRENCH IS ON A LANE LINE OR WITHIN 24" OF A LANE LINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL EXTEND TO THE CENTER OF EACH LANE.
- 14. COLLECTOR STREET MAINLINE TRENCH STANDARD:
 - A. IF THE TRENCH IS MORE THAN 12' FROM CENTERLINE, THE 1-1/2' GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED FROM TRENCH TO EDGE OF EXISTING PAVEMENT.
 - B. IF THE TRENCH IS BETWEEN 12' AND 10' FROM THE CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 5' FROM CENTERLINE TO EDGE OF EXISTING PAVEMENT
 - C. IF THE TRENCH IS BETWEEN 9' AND 2' FROM CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED FROM CENTERLINE TO 12' FROM CENTERLINE.
- D. IF THE TRENCH IS ON THE CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED 10' CENTERED ON THE ROADWAY.

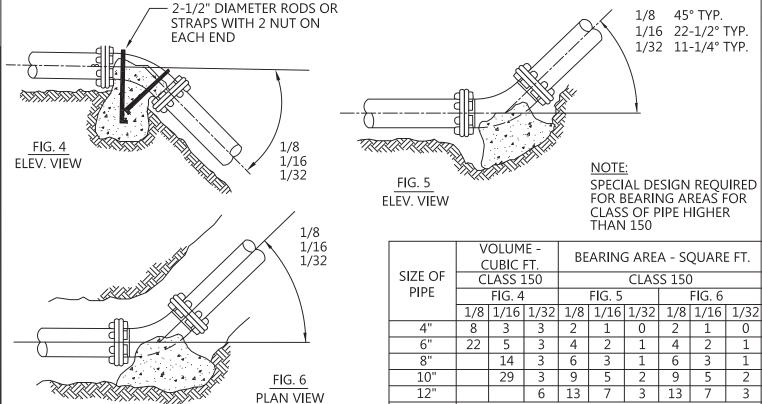
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- 15. LOCAL STREET MAINLINE TRENCH STANDARD (HALF STREET):
- A. TO AVOID "FLOATER" PAVEMENT SECTIONS, IF THE EXISTING STREET PAVING HALF-WIDTH IS 13' OR LESS, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL BE CONSTRUCTED THE ENTIRE HALF-STREET WIDTH. 6' EDGEMILL GRINDING ON EACH SIDE OF THE PAVING SECTION MAY BE ACCEPTABLE IF APPROVED BY THE CITY ENGINEER.
- B. FOR STREET HALF-WIDTHS BETWEEN 13'-18', THE MINIMUM 1-1/2'' GRIND AND OVERLAY SECTION SHALL EXTEND TO CENTERLINE AND SPAN 12' WITH A MINIMUM EXTENSION BEYOND THE TRENCH LINE ON ANY ONE SIDE OF THE TRENCH NOT BEING LESS THAN 2 FEET.
- C. IF THE TRENCH IS ON CENTERLINE, THE 1-1/2" GRIND AND OVERLAY SECTION SHALL SPAN 10' CENTERED ON THE ROADWAY.

IF A STREET, IN WHICH A MAINLINE REPAIR OR INSTALLATION IS OCCURRING, FALLS WITHIN THE CITY'S PMP STREET REHABILITATION SCHEDULE FOR THE UPCOMING FISCAL YEAR, THE CITY WILL ALLOW THE PERMITEE TO PAY THE CITY THE STREET REHABILITATION CONTRACT UNIT RATE, PLUS TEN PERCENT FOR ADMINISTRATION/MOBILIZATION FEES FOR THE REQUIRED PAVEMENT OVERLAY SECTION BEYOND THE TRENCH SECTION. WITH THIS OPTION THE PERMITEE WOULD BE REQUIRED TO BASE—PAVE FLUSH TO THE EXISTING PAVEMENT USING PG. 64—10 3/4" MAX HOT MIX A.C.

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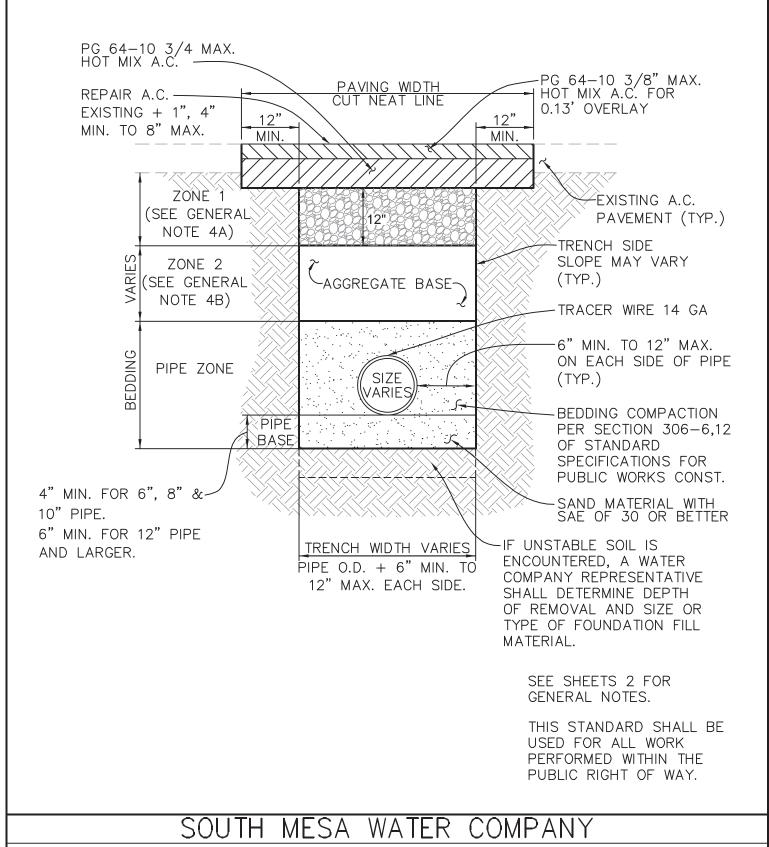
SOUTH MESA WATER COMPANY

>12'

TO BE CALCULATED BY REGISTERED ENGINEER

THRUST BLOCK DETAIL

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MESA. CALL	BOARD MEMBER	DATE			SHEET 1 OF 2

- 1. ALL WORK WILL BE PERFORMED AT THE DIRECTION OF SOUTH MESA WATER COMPANY IN CONJUNCTION WITH ITS ANNUAL MAINTENANCE AND EMERGENCY WORK PERMIT.
- 2. UNDERGROUND SERVICE ALERT SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO START OF WORK, WHENEVER POSSIBLE. CALL 811.
- 3. ALL EXCAVATIONS SHALL BE MADE, PROTECTED, AND SUPPORTED AS REQUIRED FOR SAFETY AND IN THE MANNER SET FORTH IN THE OPERATIONS RULES, ORDERS, AND REGULATIONS PRESCRIBED BY THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY.
- 4. A) BACKFILL ZONE 1 SHALL CONSIST OF CLASS II CRUSHED AGGREGATE BASE COMPACTED TO 95% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 6".
 - B) BACKFILL IN ZONE 2 SHALL CONSIST OF CLASS II BASE (3/4" MAX.) COMPACTED TO 90% OF RELATIVE COMPACTION, IN MAXIMUM LIFTS OF 12".
 - C) BEDDING SHALL BE PER PLANS AND SPECIFICATIONS, AND SHALL ONLY EXTEND 12" ABOVE THE TOP OF THE PIPELINE OR CONDUIT.
 - D) NO JETTING OR FLOODING OF BACKFILL MATERIAL WILL BE ALLOWED.
- 5. A MINIMUM 2-INCH THICKNESS OF TEMPORARY ASPHALT PAVING SHALL BE PLACED WITHIN THE REPAIR AREA IMMEDIATELY, UNTIL PERMANENT REPAIR IS COMPLETED. THE TEMPORARY PAVING SHALL BE PLACED AND COMPACTED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH TRAVELED SURFACE, FLUSH WITH THE SURROUNDING PAVEMENT. PERMITTEE SHALL MAINTAIN THE TEMPORARY PAVEMENT IN A SAFE AND SMOOTH CONDITION UNTIL PERMANENT PAVEMENT IS IN PLACE.
- 6. PRIOR TO PLACEMENT OF PERMANENT PAVING, TEMPORARY PAVEMENT AND CRACKED PAVEMENT ADJACENT TO THE REPAIR SHALL BE REMOVED.
- 7. ALL EDGES OF EXISTING PAVEMENT BEING JOINED AND SURFACE BEING OVERLAID SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION.
- 8. WHEN THE REPAIR EXTENDS UNDER CURB, IT SHALL BE BACKFILLED WITH AGGREGATE BASE FROM BACK OF CURB TO ONE FOOT (1') BEYOND LIP OF GUTTER AND FILL TO SUBGRADE ELEVATION.
- 9. IF TRENCH FAILURE SHOULD OCCUR, THE PERMITEE WILL BE NOTIFIED OF SUCH DEFICIENCIES AND ALLOWED TO REMOVE, REPLACE, OR REMEDY HIS WORK.

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POTHOLE REPAIR DETAIL			
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2023

County Road Standards

COUNTY ROAD STANDARDS

INDEX - PAGE 1 OF 2

EXPRESSWAYS

81	8-LANE EXPRESSWAY (152' IMP, 220' R/W)
82	8-LANE EXPRESSWAY (146' IMP, 220' R/W)
83	8-LANE EXPRESSWAY (134' IMP, 184' R/W)
84	6-LANE EXPRESSWAY (152' IMP, 220' R/W)
85	6-LANE EXPRESSWAY (110' IMP, 184' R/W)
86	6-LANE EXPRESSWAY (110' IMP, 142' R/W)

GENERAL PLAN HIGHWAYS

91	URBAN ARTERIAL HIGHWAY 152' R/W
92	ARTERIAL HIGHWAY 128' R/W
93	MAJOR HIGHWAY 118' R/W
94	SECONDARY HIGHWAY100' R/W
95	MOUNTAIN ARTERIAL HIGHWAY 110' R/W

STREETS / FRONTAGE ROADS

103	COLLECTOR STREET 74' R/W (NO ACCESS)
104	ENHANCED LOCAL STREET 66' R/W
105A	EXTERIOR & LOCAL STREET 60' R/W
105B	SHORT LOCAL STREET 56' R/W
105C	AB LOCAL ROAD/ AB ACCESS RD 60' R/W
106	ACCESS ROAD, CONSTRAINED LOCAL OR PRIVATE STREET 50'-60' R/W
107	LOCAL FRONTAGE ROAD 52' R/W
107A	COLLECTOR FRONTAGE ROAD 59' R/W
108	SECONDARY FRONTAGE ROAD 82' R/W
109	MAJOR FRONTAGE ROAD 97' R/W
111	INDUSTRIAL COLLECTOR STREET 78' R/W
112	LOCAL MOUNTAIN RES. STREET 50' R/W

MEDIANS

113 LANDSCAPED MEDIAN113A CROSSOVER MEDIAN

ROADWAY DESIGN

114 ROADWAY DESIGN REQUIREMENTS

BRIDGES

115	LOCAL AND COLLECTOR STREET BRIDGE

116 URBAN ARTERIAL HIGHWAY BRIDGE

117 ARTERIAL HIGHWAY BRIDGE

118 MAJOR HIGHWAY BRIDGE

119 SECONDARY HIGHWAY BRIDGE

RURAL ROADS

136	COLLECTOR RURAL ROAD	.60' R/W
138	RESIDENTIAL RURAL ROAD	.60' R/W

CURBS, GUTTERS AND DRIVEWAYS

200	TYPE A-6 CURB AND GUTTER - 6" CURB FACE
201	TYPE A-8 CURB AND GUTTER - 8" CURB FACE
202	TYPE "C" CURB - ROLLED CURB
202A	TYPE "W" CURB - WEDGE CURB
203	TYPE "D-1" CURB ONLY ON EXISTING PAVEMENT
204	TYPE "D" CURB ONLY
205	CURB AND GUTTER JOINTS
206	RESIDENTIAL DRIVE APPROACH WITH HMA DIKE
207	RESIDENTIAL DRIVE APPROACH WITH SIDEWALK AT CURB
207A	COMMERCIAL DRIVE APPROACH
208	DRIVE APPROACH LOCATIONS AT INTERSECTION CURB RETURNS

209 CROSS GUTTER AND SPANDREL

210 CROSS GUTTER AND SPANDREL WITH SPLASH AREA

211 CURB TRANSITION

212 HOT MIX ASPHALT DIKES

213 RESIDENTIAL DRIVE APPROACH WITH SIDEWALK AT R/W

214 SAFETY EDGE

DRAINAGE

	~	— —		
300	CURB	INI E I	CATCH	BASIN

300A FOSSIL FILTER

301 COMBINATION INLET CATCH BASIN No. 1

302 COMBINATION INLET CATCH BASIN No. 2

303 FLAT OUTLET DRAINAGE STRUCTURE

304 CURB SUPPORT DETAIL

305 GRATE AND FRAME DETAIL

306 HOT MIX ASPHALT OVERSIDE DRAIN

307 PCC DIP SECTION

308 CURB OUTLET DRAIN

309 UNDER SIDEWALK DRAIN CAST IN PLACE

310 PRIVATE DRAIN THROUGH CURB

311 GUTTER DEPRESSION FOR CURB OPENING CATCH BASINS

312 GUTTER DEPRESSION FOR GRATE OPENING CATCH BASINS

313 FULL TRASH CAPTURE DEVICE -CONNECTOR PIPE SCREEN

314 RIPRAP ENERGY DISSIPATER

COUNTY ROAD STANDARDS

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- 400 SIDEWALK, FIRE HYDRANT, AND UTILITY POLE LOCATION
- 401 SIDEWALK AND CURB
- 403 CURB RAMP
- 404 MEANDERING SIDEWALK
- 405 MULTIPURPOSE TRAIL

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500 ALLEY AND ALLEY APRON SECTIONS

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- 601 SEWER CHIMNEY PIPE
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- 607 PRE-CAST CONCRETE MH, CONCENTRIC
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- 701 FIRE HYDRANT INSTALLATION
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- 800A OFFSET CUL-DE-SAC
- 801 KNUCKLE
- 802 FRONTAGE ROAD INTERSECTION
- 803 PRIVATE ROAD CONNECTION (RURAL AREA)
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- 806 ENTRY STREET 50' IMP/80' R/W
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- 1202 TRAFFIC SIGNAL DETAIL
- 1205 VIDEO/RADAR DETECTION DETAIL
- 1206 LOOP DETECTOR DETAIL
- 1207 DETECTION INPUT ASSIGNMENTS
- 1210 STRIPING DETAILS AND CONSTRUCTION NOTES
- 1211 CROSSWALK AND LIMIT LINE LAYOUT DETAIL
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- 1217 SOLAR POWERED RADAR SPEED FEEDBACK SIGN HIGHWAY
- 1220 STREET NAME SIGN
 - (CURB TO CURB WIDTH GREATER THAN 60')
- 1221 STREET NAME SIGN (CURB TO CURB WIDTH LESS THAN OR EQUAL TO 60')
- 1222 SIGN POST INSTALLATION
- 1223 NO PARKING SIGN RV'S / TRAILERS
- 1225 ADVANCE STREET NAME SIGN

	A		D
AB	AGGREGATE BASE	DET	DETAIL, DETOUR
ABBR	ABBREVIATION	D.F.	DOUGLAS FIR
ABN	ABANDON	DG	DECOMPOSED GRANITE
AC	ASPHALT CONCRETE	DI	DRAINAGE INLET
ACB	ASPHALT CONCRETE BASE	DIA	DIAMETER
ADA	AMERICANS WITH DISABILITIES ACT	DIST	DISTANCE
.HD	AHEAD	DR	DRIVE
\LT	ALTERNATE	DWY	DRIVEWAY
ALUM	ALUMINUM		
AMP	AMPERE		E)
APPROX	APPROXIMATE		<u> </u>
ARHM	ASPHALT-RUBBER-HOT-MIX	EC	END HORIZONTAL CURVE
AS	AGGREGATE SUBBASE	ECR	END CURB RETURN
AST	ABOVE-GROUND STORAGE TANK	EG	EDGE OF GUTTER
ATC	ADVANCED TRANSPORTATION CONTROLLER	EGL	ENERGY GRADE LINE
AVE	AVENUE	EIR	ENVIRONMENTAL IMPACT RECORD
	AT	EL	ELEVATION
@	A I	ELEV	ELEVATION
	В	E/O	EAST OF
		EP	EDGE OF PAVEMENT
0.0	BEGIN HORIZONTAL CURVE	EQUIV	EQUIVALENT
3C		ES	EDGE OF PAVED SHOULDER
BCR	BEGIN CURB RETURN	ETC	ETCETERA
BEG	BEGIN	ETW	EDGE OF TRAVELED WAY
BLDG	BUILDING	EVC	END OF VERTICAL CURVE
BLVD	BOULEVARD		
BM	BENCH MARK	EXIST, (E)	
BMP	BEST MANAGEMENT PRACTICE	EXP	EXPANSION, EXPIRATION
BOS	BOARD OF SUPERVISORS	EXPY	EXPRESSWAY
ЗОТ	BOTTOM		
BOW	BACK OF WALK		F
3R	BRIDGE	CCDT	EACING EACTROLING TRAFFIC
BRG	BEARING	FEBT	FACING EASTBOUND TRAFFIC
3VC	BEGIN VERTICAL CURVE	FDY	FOUNDRY
		FG	FINISHED GRADE
(C)	FH 	FIRE HYDRANT
		FL	FLOW LINE
C/G	CURB AND GUTTER	FNBT	FACING NORTHBOUND TRAFFIC
CAB	CRUSHED AGGREGATE BASE	FS	FINISHED SURFACE
CAP	CORRUGATED ALUMINUM PIPE	FSBT	FACING SOUTHBOUND TRAFFIC
СВ	CATCH BASIN	FT	FEET
CBC	CATCH BASIN CLEANOUT	FTCD	FULL TRASH CAPTURE DEVICE
CBI	CATCH BASIN INSERT	FWBT	FACING WESTBOUND TRAFFIC
CF	CURB FACE	FW	FACE OF WALL
CIP	CAST IRON PIPE	FWY	FREEWAY
CLF	CHAIN LINK FENCE		
CLR	CLEAR, CLEARANCE	(G)
CM	CULVERT MARKER		
CMD	CRUSHED MISCELLANEOUS BASE	GA	GAUGE
CONC	CONCRETE	GALV	GALVAN I ZED
CONST	CONSTRUCT, CONSTRUCTION	GB	GRADE BREAK
CONT	CONTINUOUS	GM	GAS METER
C.R.	CORNER RADIUS	GR	GRADE
CS	CROSS SLOPE	GS	GRADED SHOULDER
CULV	CULVERT	GTR	GUTTER
CV	CHECK VALVE		
CW	CROSS WALK		
Q Q	CENTERLINE		
L			A O D O N V M O A N D

ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 3)

	H		0
HGL	HYDRAULIC GRADE LINE	ОС	OVERCROSSING, ON CENTER
HMA	HOT MIX ASPHALT	OD	OUTSIDE DIAMTER
HOR I Z	HORIZONTAL	OG	
			ORIGINAL GROUND
HPG	HIGH PRESSURE GAS	ОН	OVERHEAD
HW HWY	HEADWALL		
7 7 7 7	HIGHWAY		P
		РВ	PULL BOX
		PEC	PHOTO ELECTRIC CELL
ID	INSIDE DIAMETER / IDENTIFICATION	PED	PEDESTRIAN
IN	INCH	PEU	PHOTO ELECTRIC UNIT
INV	INVERT	PD	PRIVATE DRAIN
IP	IRON PIPE	PG	PROFILE GRADE
IISNS	INTERNALLY ILLUMINATED	ΡI	POINT OF INTERSECTION
	STREET NAME SIGN	P/L	PROPERTY LINE
		PCC	PORTLAND CEMENT CONCRETE
	J	POC	POINT OF HORIZONTAL CURVE,
			PEDESTRIAN OVERCROSSING (
JS	JUNCTION STRUCTURE	PP	POWER POLE
JT	JOINT	PRC	POINT OF REVERSE CURVE
		PS&E	PLANS, SPECIFICATIONS AND
	•	. 002	ESTIMATES
	L	PVMT	PAVEMENT
L	LENGTH		
LBS	POUNDS		Q
LC	LOWER CASE		
LF	LINEAR FOOT	QTY	QUANTITY
LN	LANE		
LOC	LOCATION		
LOL	LAYOUT LINE		R
_ONG	LONGITUDE	R	RADIUS
LONGIT	LONGITUDINAL	RC	REVERSE CURVE
LP	LAMP POST	RCB	REINFORCED CONCRETE BOX
LS	LANSCAPING, LUMP SUM	RCP	REINFORCED CONCRETE PIPE
LT	LEFT	RD	ROAD
LTT	LEFT TURN	RDWY	ROADWAY
		REAS	RUBBERIZED EMULSION ASPHAULT
	RA .	INLAG	SLURRY
	M	REINF	REINFORCEMENT
MA	MAST ARM	REL,	RELOCATE
MAINT		RELOC	RELOCATE
MAX	MAINTENANCE MAXIMUM	REQ	REQUIRED
		RET	RETAINING
MBGR	METAL BEAM GUARD RAILING		
MED	MEDIAN	REV	REVISED, REVISION
MH	MANHOLE	RPM	RAISED PAVEMENT MARKER
MIN	MINIMUM	RR	RAILROAD
MISC	MISCELLANEOUS	RS	RAMP SLOPE
MM	MILE MARKER	RT	RIGHT
MOD	MODIFIED, MODIFY	RTT	RIGHT TURN
MPH	MILES PER HOUR	RTE	ROUTE
ΛT	MOUNTAIN, MOUNT	RV	RECREATIONAL VEHICLES
		RW	RETAINING WALL
			DICHT OF MAY
	N	R/W	RIGHT OF WAY
N	N NEUTRAL		RIGHT OF WAY
NB	NEUTRAL		
NB No.	NEUTRAL NORTHBOUND		ACRONYMS AND
N NB No. NOM N/O	NEUTRAL NORTHBOUND NUMBER		ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 3)

S

S SOUTH
SALV SALVAGE
SB SOUTHBOUND
SCH, SCHEDULE

SCHED

SD STORM DRAIN SEC SECTION

SEG SUPER ENGINEERING GRADE

SEP SEPARATION SG SUBGRADE SHLD SHOULDER SHT SHEET

S STATION LINE

SGS STREET & GUTTER SLOPE

SO SOUTH OF
SPEC SPECIFICATION
SR STATE ROUTE
ST STREET
STA STATION
STD STANDARD

STR STRUCTURE, STRAIGHT

SURF SURFACING

SW SIDEWALK, SOUND WALL

T

TC TOP OF CURB
TD TOP OF DIKE
TEL TELEPHONE
TEMP TEMPORARY
TG TOP OF GRADE

TOT TOTAL TRANSITION

TS TRAFFIC SIGNAL, TRANSITION SLOPE

TV TELEVISION TYP TYPICAL

U

UC UNDERCROSSING, UPPER CASE

UD UNDERDRAIN

V

VAR VARIABLE, VARIES
VC VERTICAL CURVE
VCP VITRIFIED CLAY PIPE

VERT VERTICAL VOL VOLUME

W

W **WEST** W/ WITH WIDTH A WA WB WESTBOUND WHT WHITE W/O WEST OF WV WATER VALVE WW WINGWALL

X

X SEC CROSS SECTION X-WALK CROSSWALK XING CROSSING

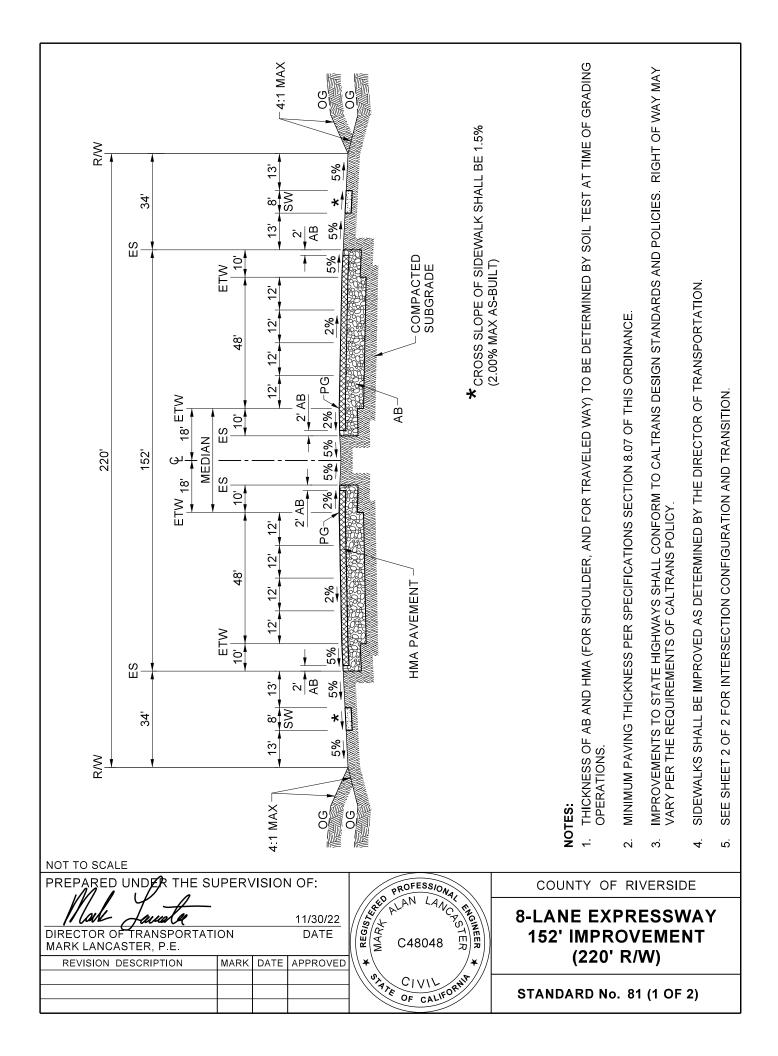
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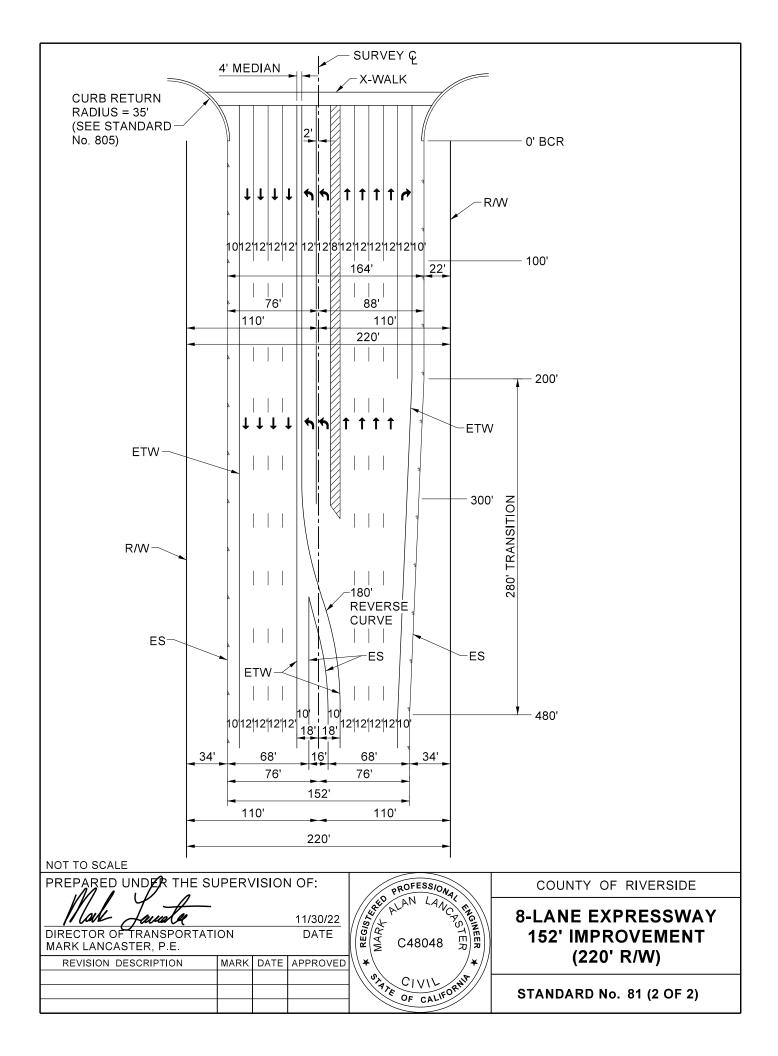
YR YEAR YRS YEARS

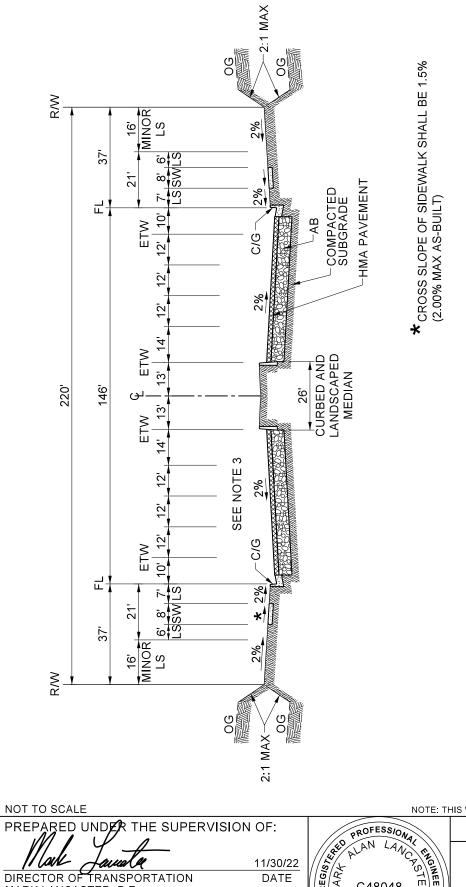
(MISCELLANEOUS)

2:1 2 HORIZONTAL TO 1 VERTICAL

ACRONYMS AND ABBREVIATIONS (SHEET 3 OF 3)







1. THICKNESS OF AB AND HMA (FOR SHOULDER, AND FOR TRAVELED WAY) TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING NOTES

IMPROVEMENTS TO STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS AND POLICIES. RIGHT OF WAY MAY

SEE SHEET 2 OF 2 FOR INTERSECTION CONFIGURATION AND TRANSITION

2

VARY PER THE REQUIREMENTS OF CALTRANS POLICY.

SEE STANDARD No. 113 FOR LANDSCAPED MEDIAN REQUIREMENTS, INCLUDING MEDIAN CURB.

MINIMUM PAVING THICKNESS PER SPECIFICATIONS SECTION 8.07 OF THIS ORDINANCE.

8-LANE EXPRESSWAY 146' IMPROVEMENT (220' R/W)

COUNTY OF RIVERSIDE

STANDARD No. 82 (1 OF 2)

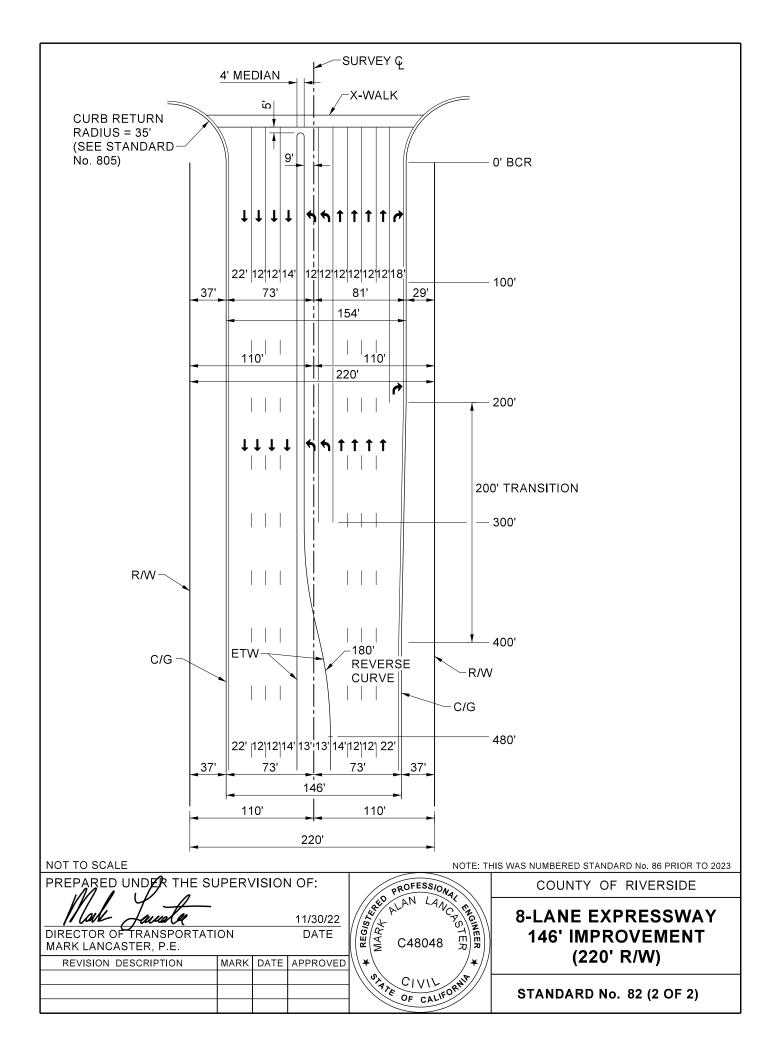
NOTE: THIS WAS NUMBERED STANDARD No. 86 PRIOR TO 2023

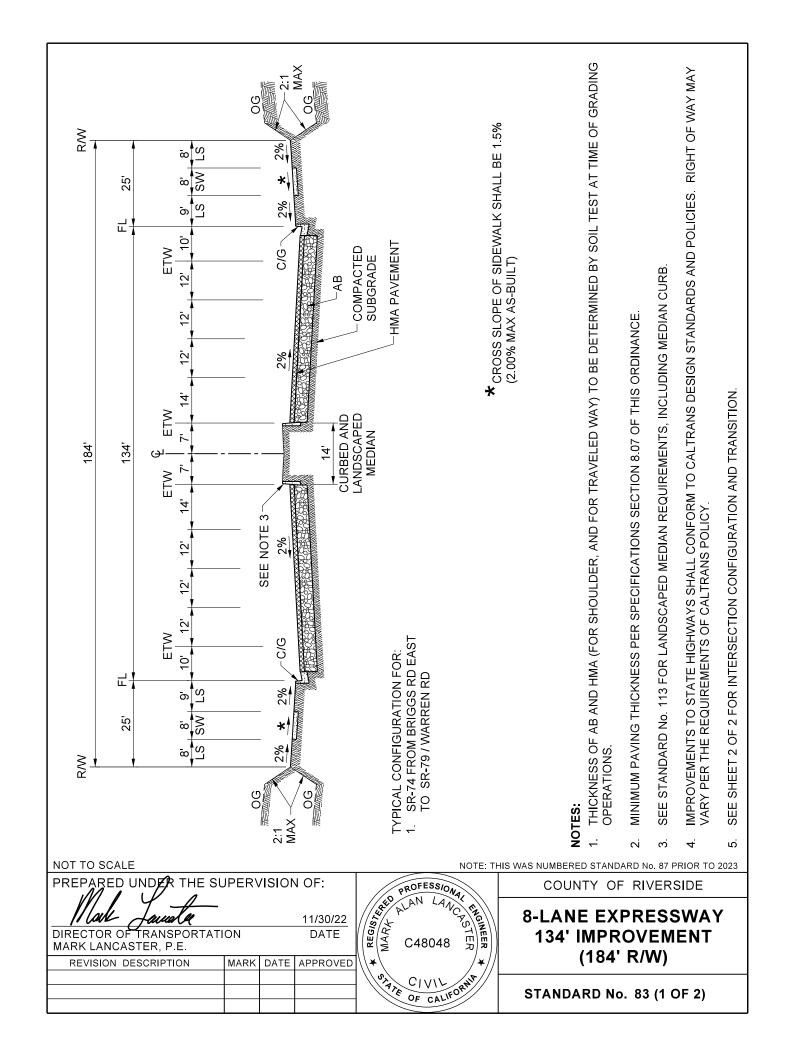
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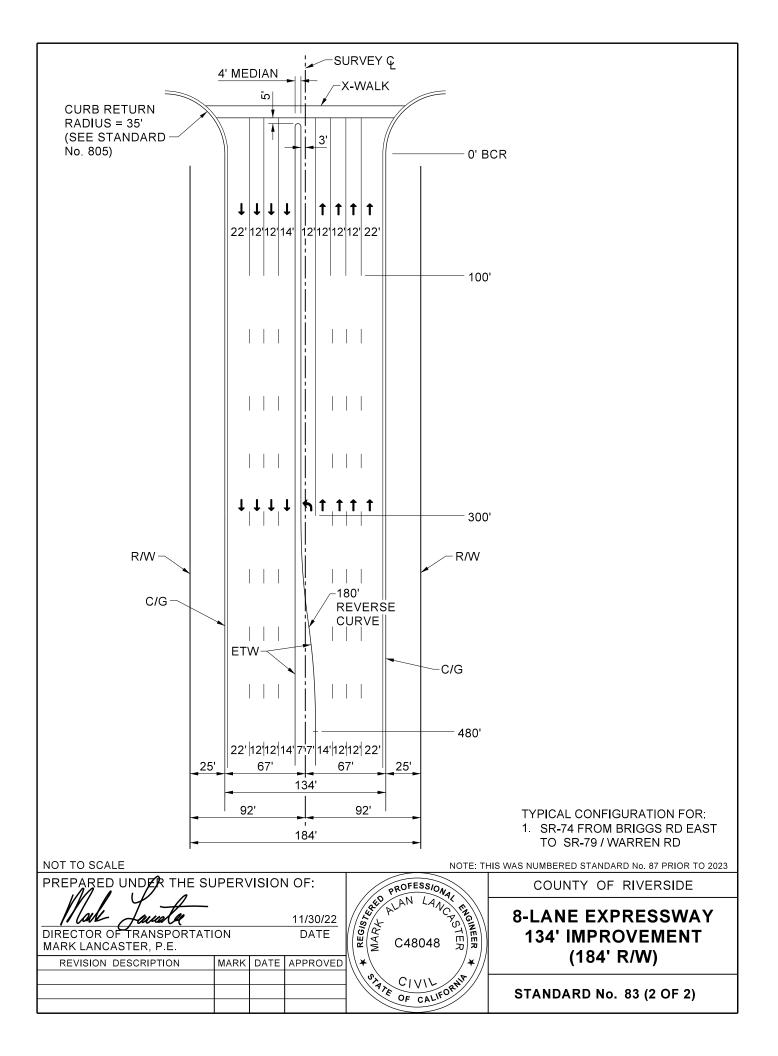
DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

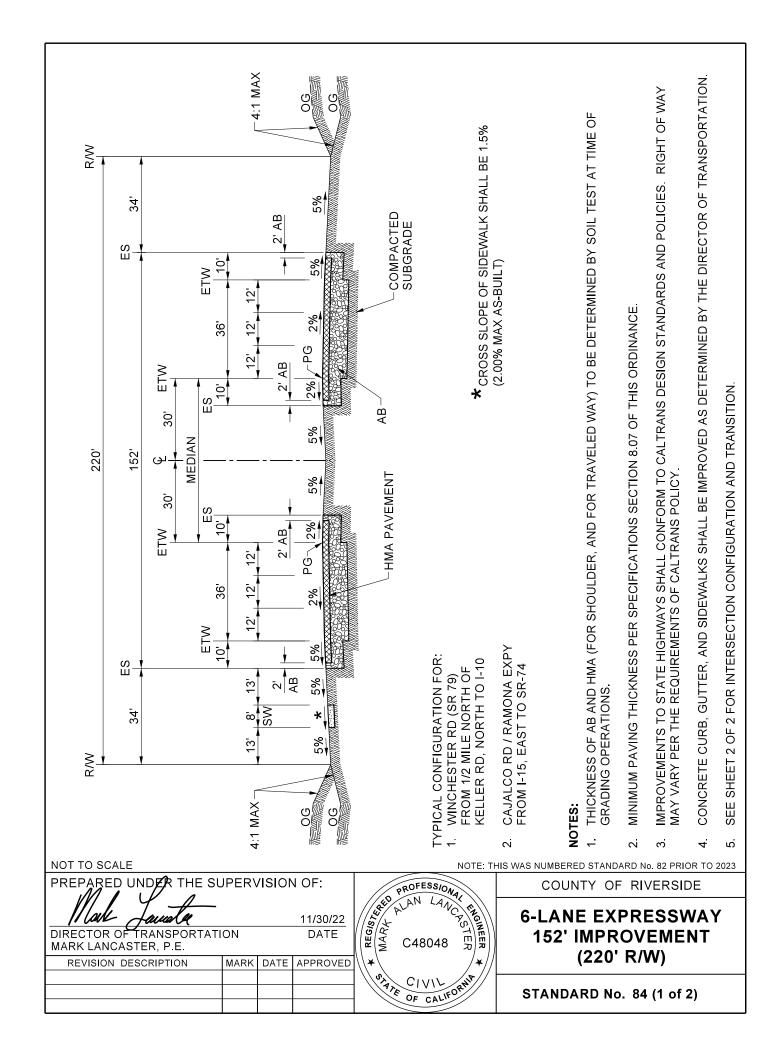
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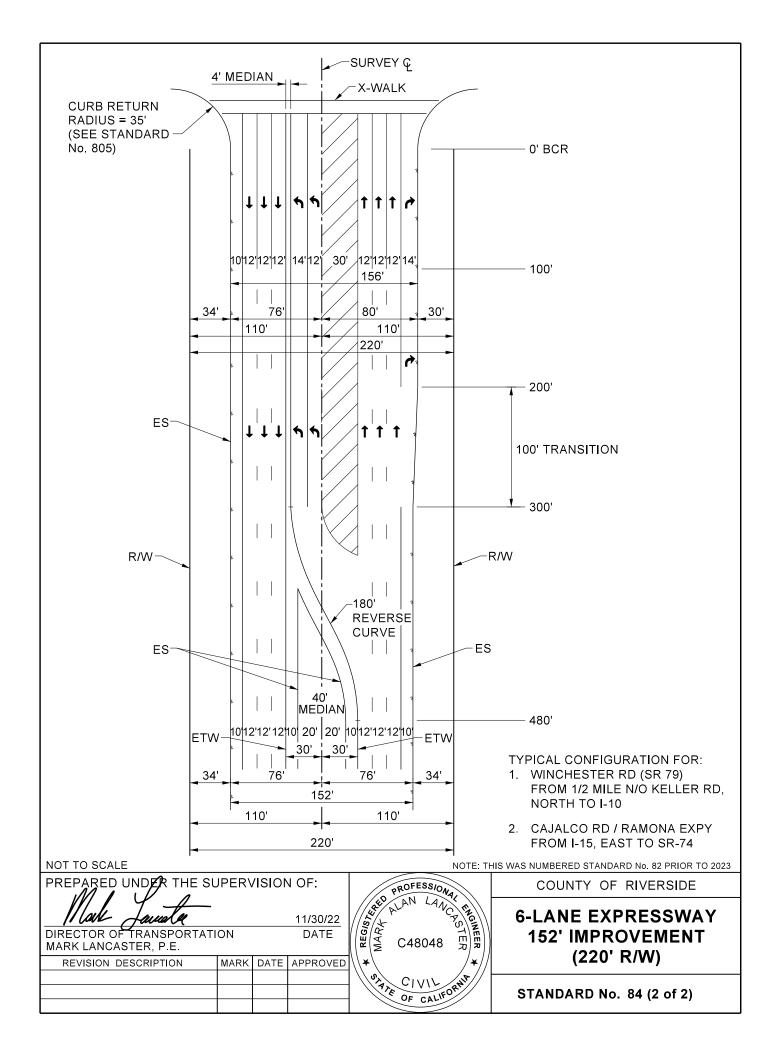
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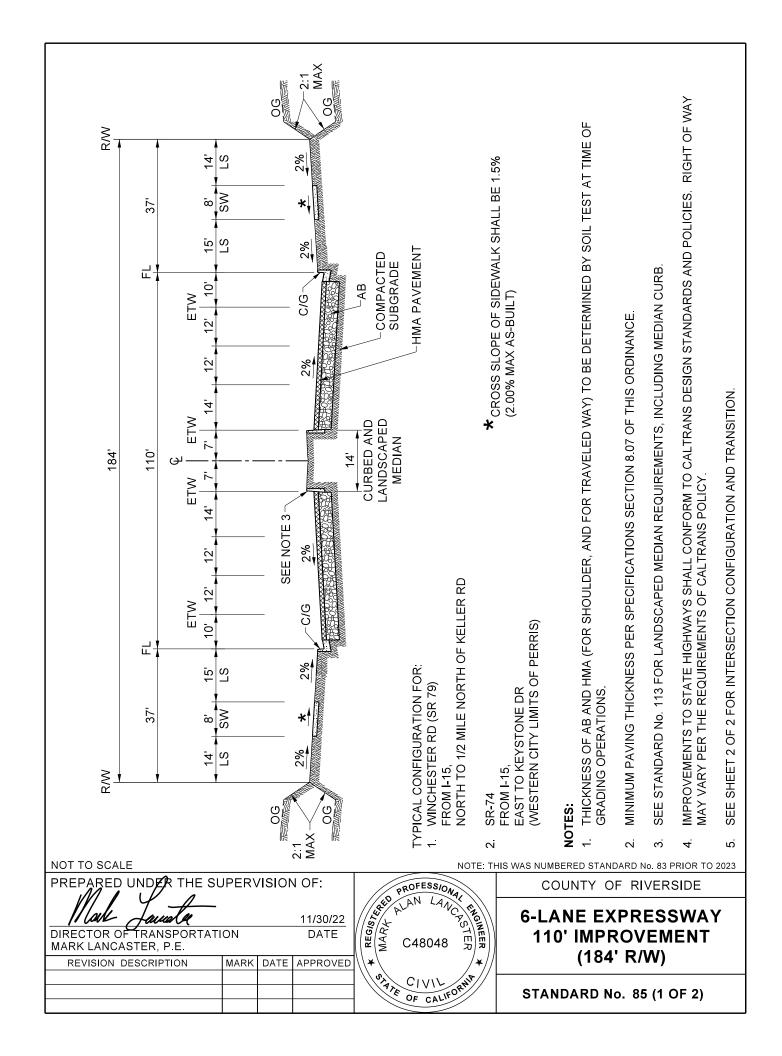


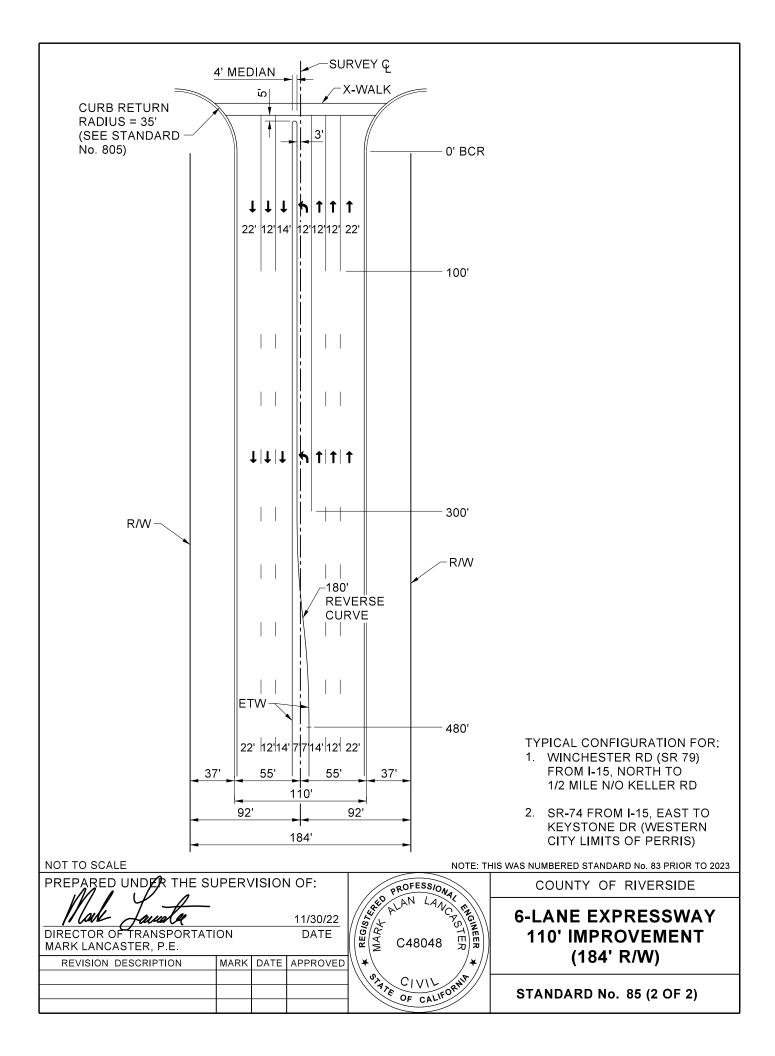


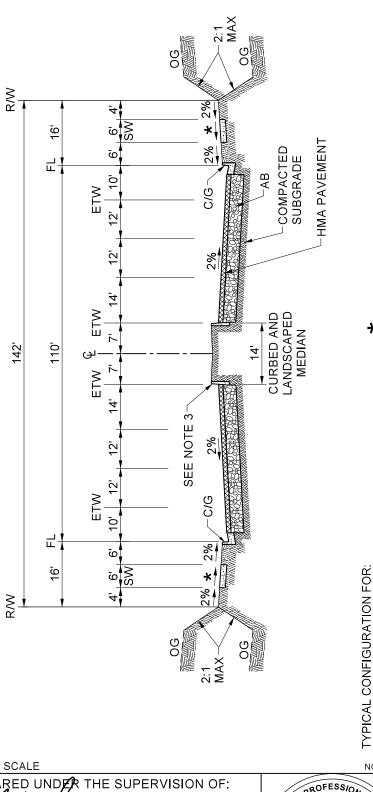












★ CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

> SR 79 (SOUTH) FROM 1200' EAST OF BUTTERFIELD STAGE RD EAST TO APPROX 500' EAST OF PAUBA RD

NOTES S NOTE: THIS WAS NUMBERED STANDARD No. 85 PRIOR TO 2023

IMPROVEMENTS TO STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS AND POLICIES. RIGHT OF WAY MAY

SEE SHEET 2 OF 2 FOR INTERSECTION CONFIGURATION AND TRANSITION.

VARY PER THE REQUIREMENTS OF CALTRANS POLICY

SEE STANDARD NO. 113 FOR LANDSCAPED MEDIAN REQUIREMENTS, INCLUDING MEDIAN CURB.

MINIMUM PAVING THICKNESS PER SPECIFICATIONS SECTION 8.07 OF THIS ORDINANCE.

THICKNESS OF AB AND HMA (FOR SHOULDER, AND FOR TRAVELED WAY) TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING OPERATIONS.

.ANE EXPRESSWAY

COUNTY OF RIVERSIDE

110' IMPROVEMENT (142' R/W)

STANDARD No. 86 (1 OF 2)

NOT TO SCALE

PREPARED

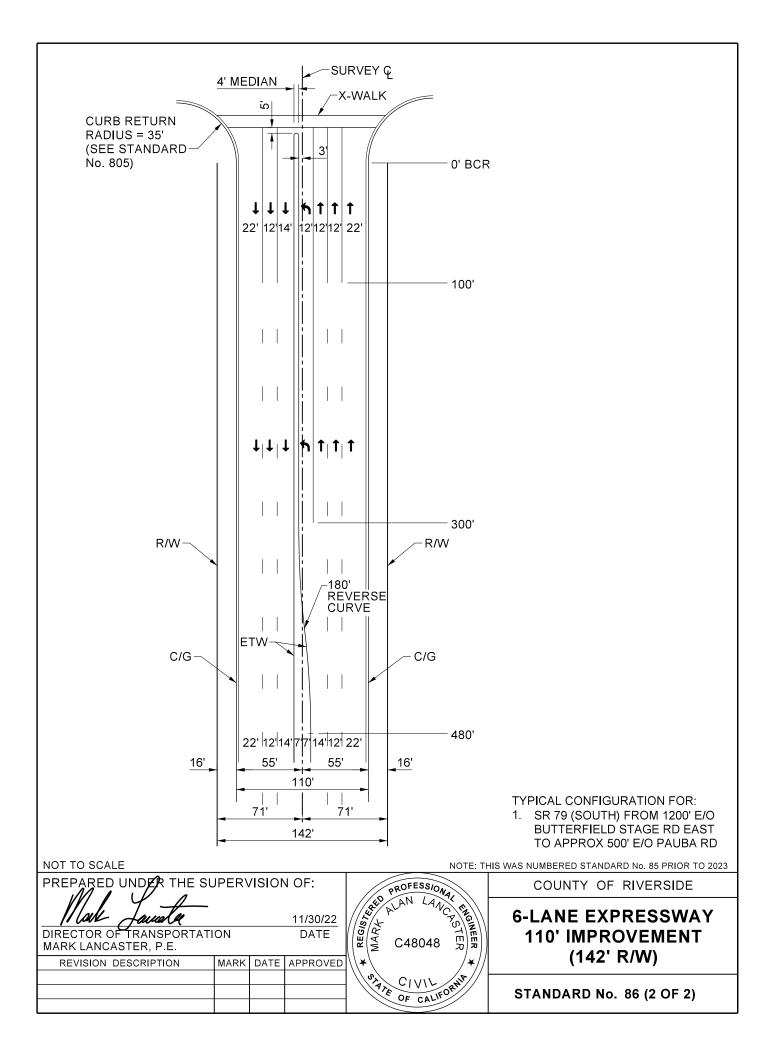
DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

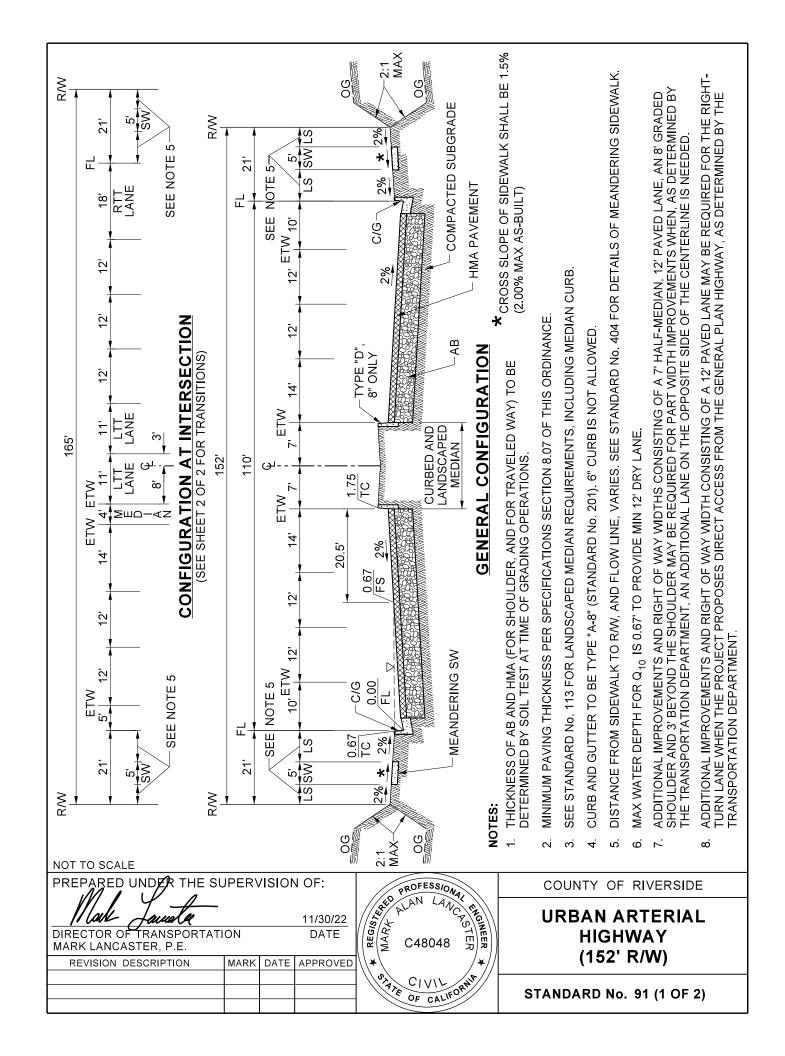
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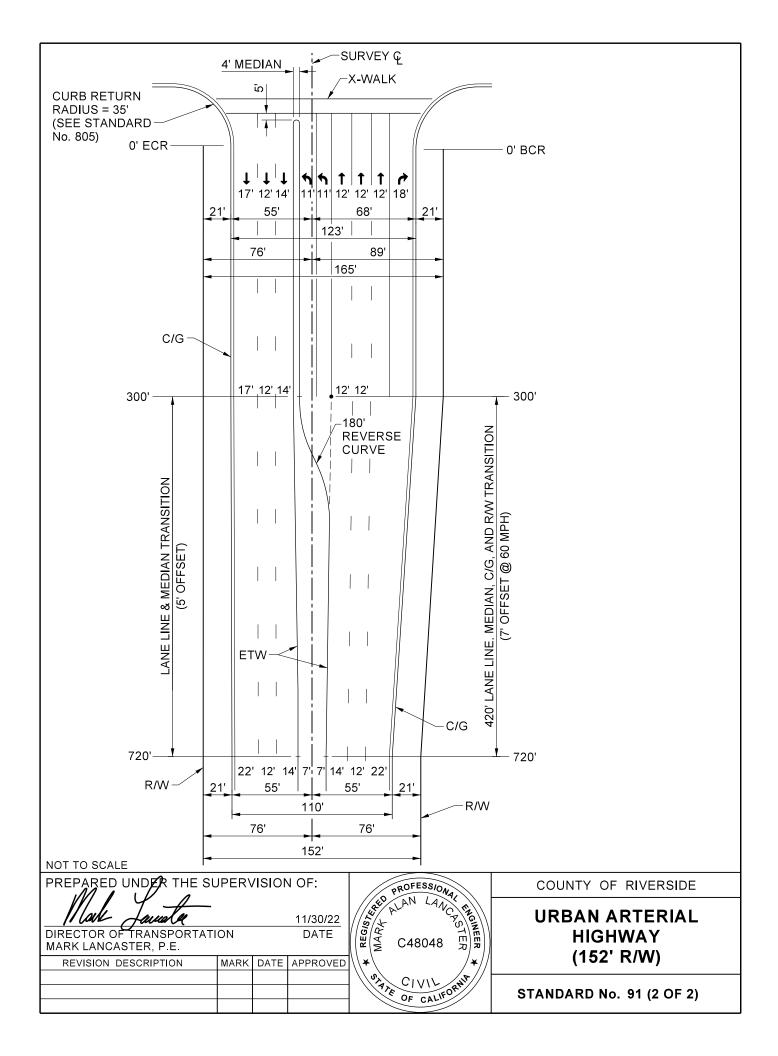
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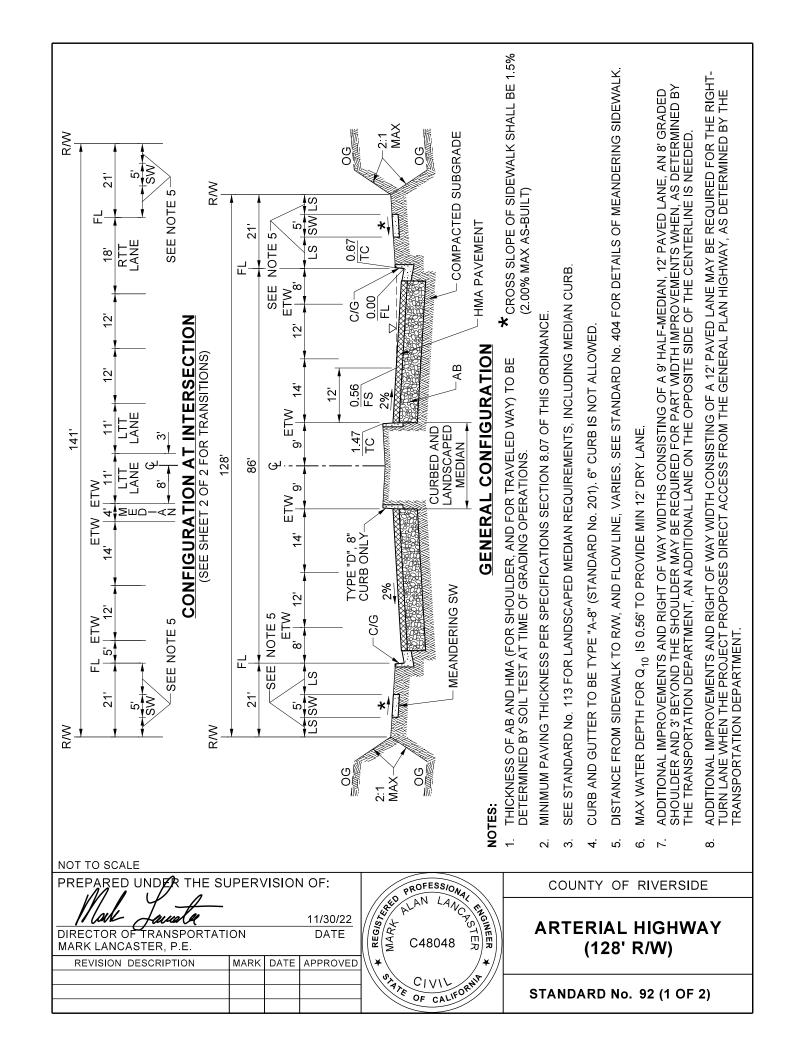
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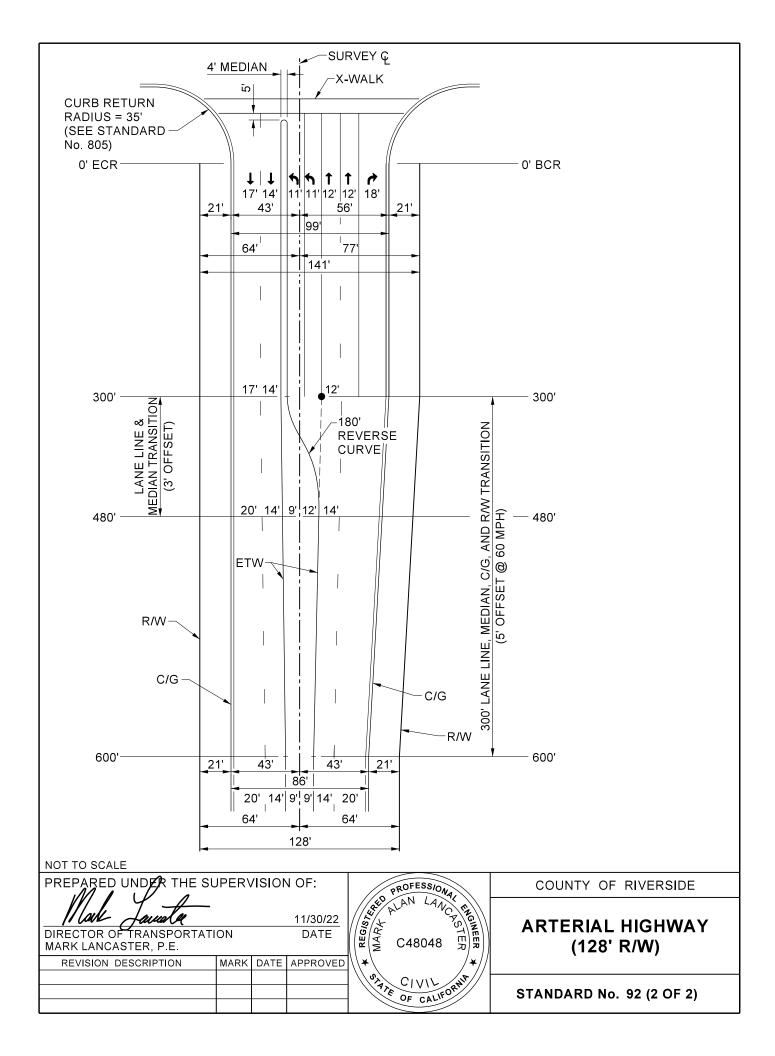
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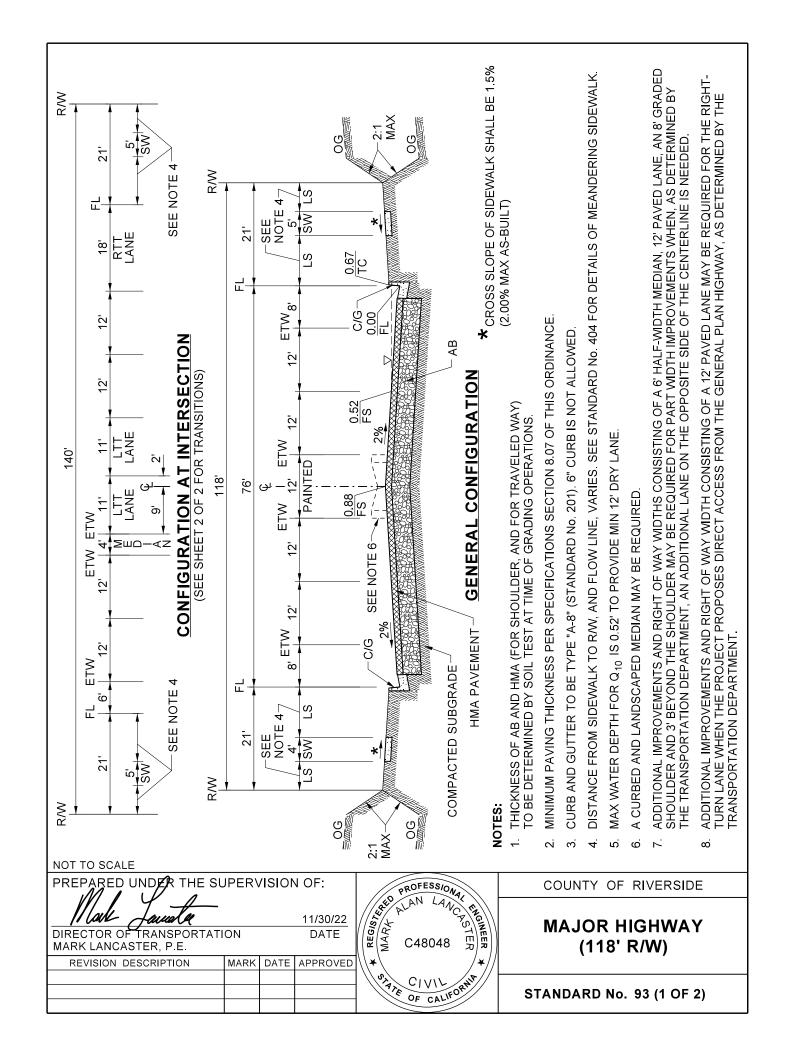


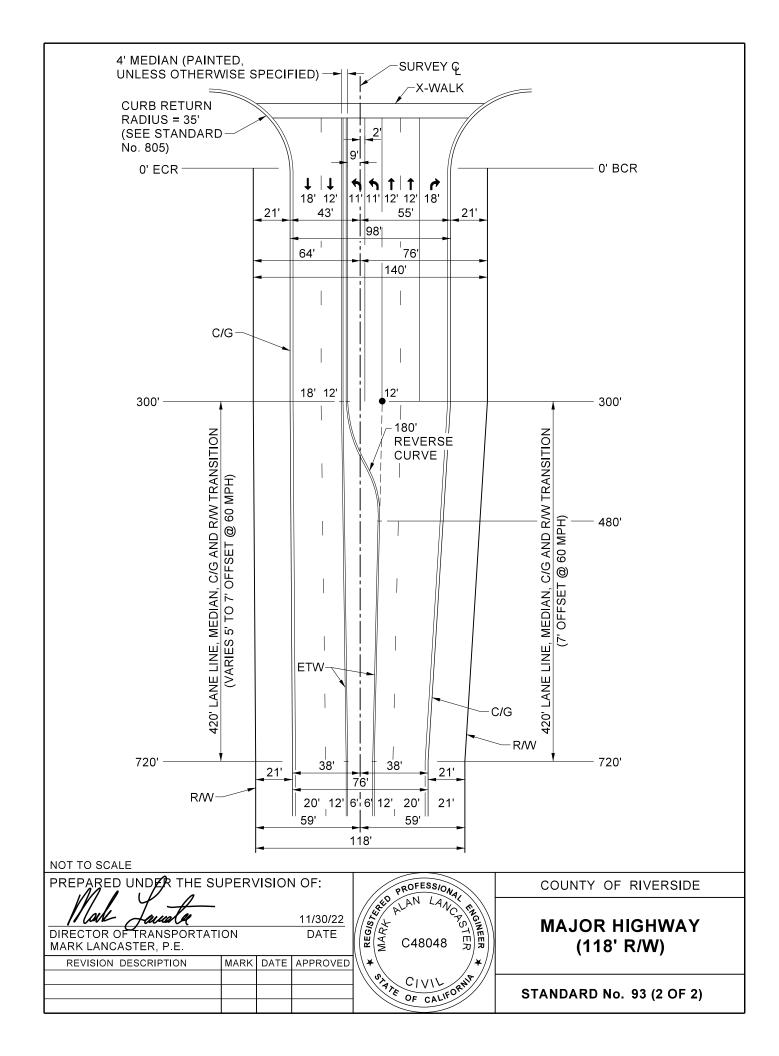


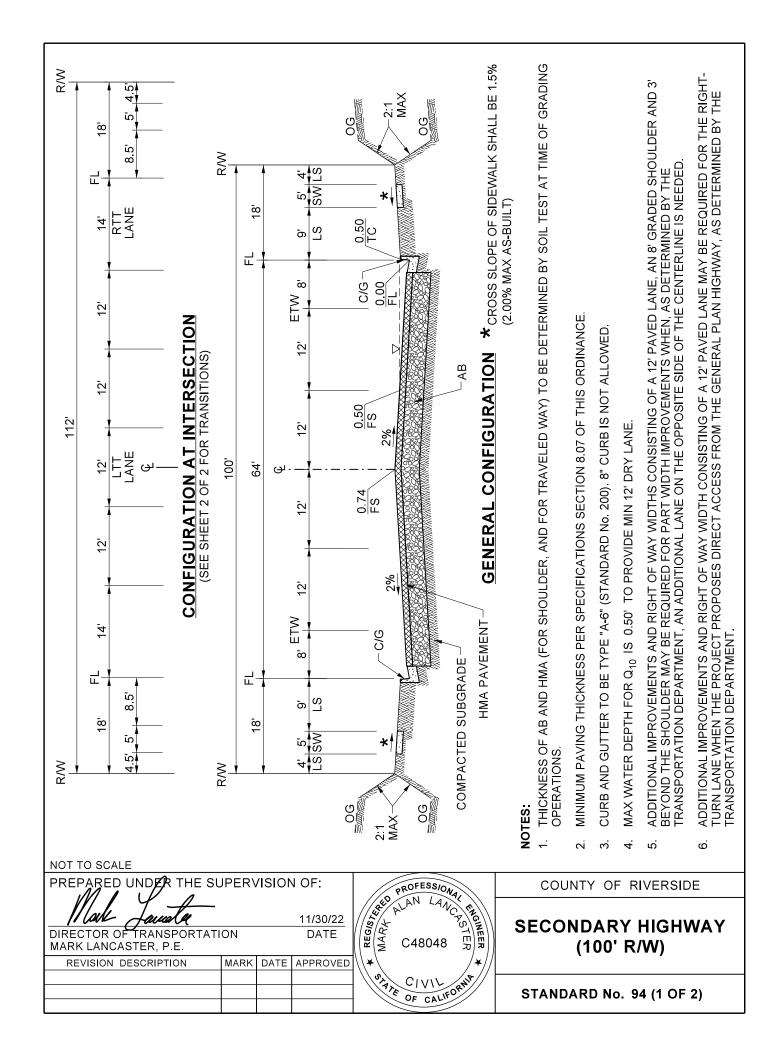


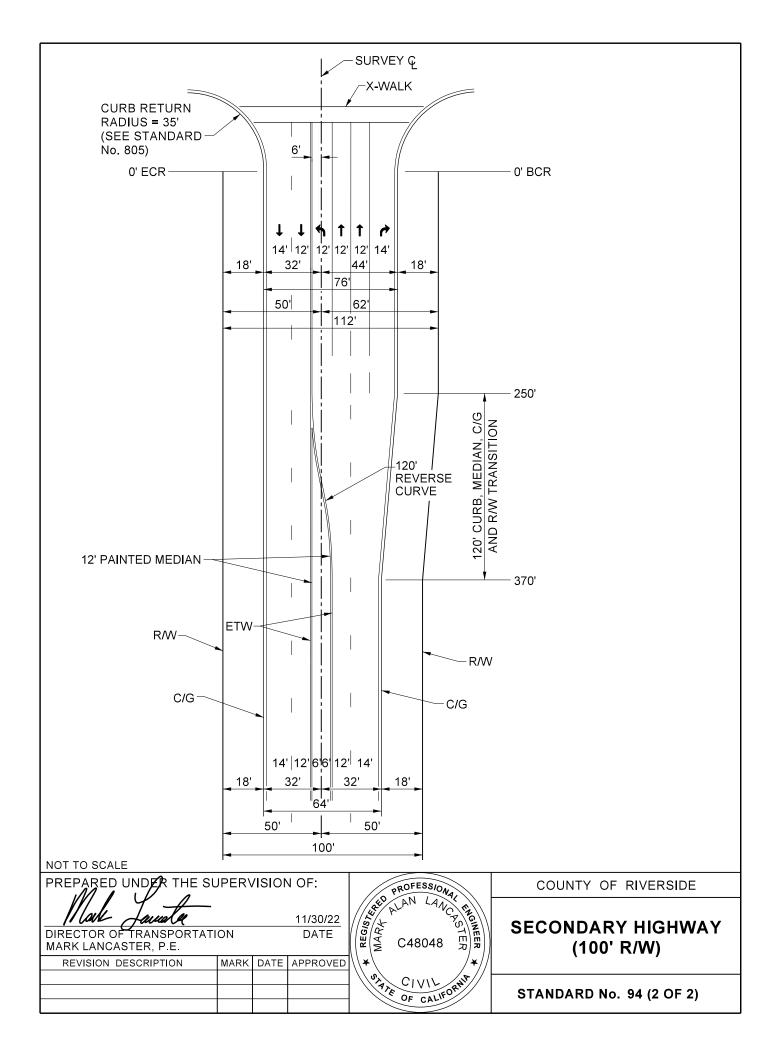


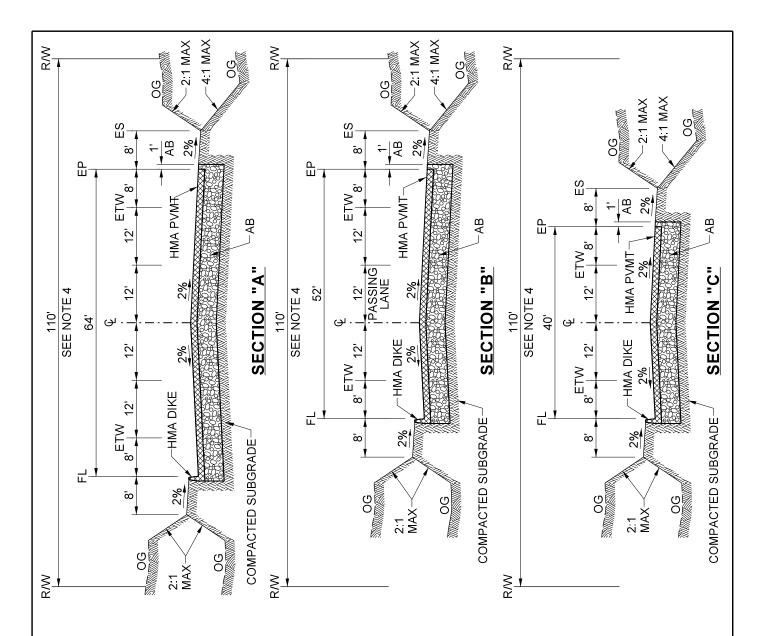








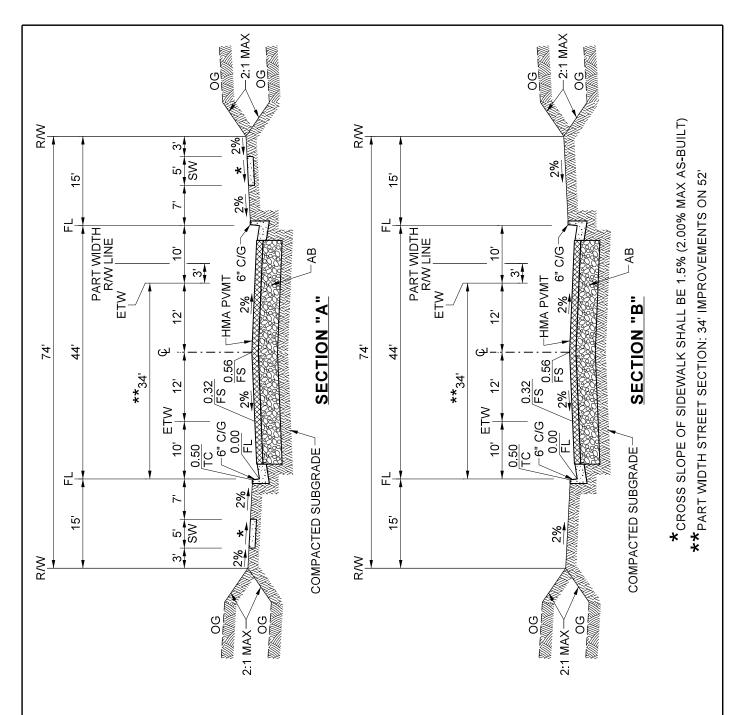




NOTES:

- 1. THICKNESS OF AB AND HMA TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING OPERATIONS.
- 2. MINIMUM PAVING THICKNESS PER SPECIFICATIONS SECTION 8.07 OF THIS ORDINANCE.
- 3. SEE STANDARD No. 212 FOR HMA DIKE DETAIL AND REQUIREMENTS. HMA DIKE MAY BE REQUIRED ON ONE OR BOTH SIDES.
- 4. CONCRETE CURB, GUTTER, AND SIDEWALK MAY BE REQUIRED AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER COUNTY OF RIVERSIDE ENGINEER **MOUNTAIN ARTERIAL** 11/30/22 DIRECTOR OF TRANSPORTATION **HIGHWAY** DATE C48048 MARK LANCASTER, P.E. (110' R/W) REVISION DESCRIPTION DATE MARK APPROVED OF CALIFORN STANDARD No. 95

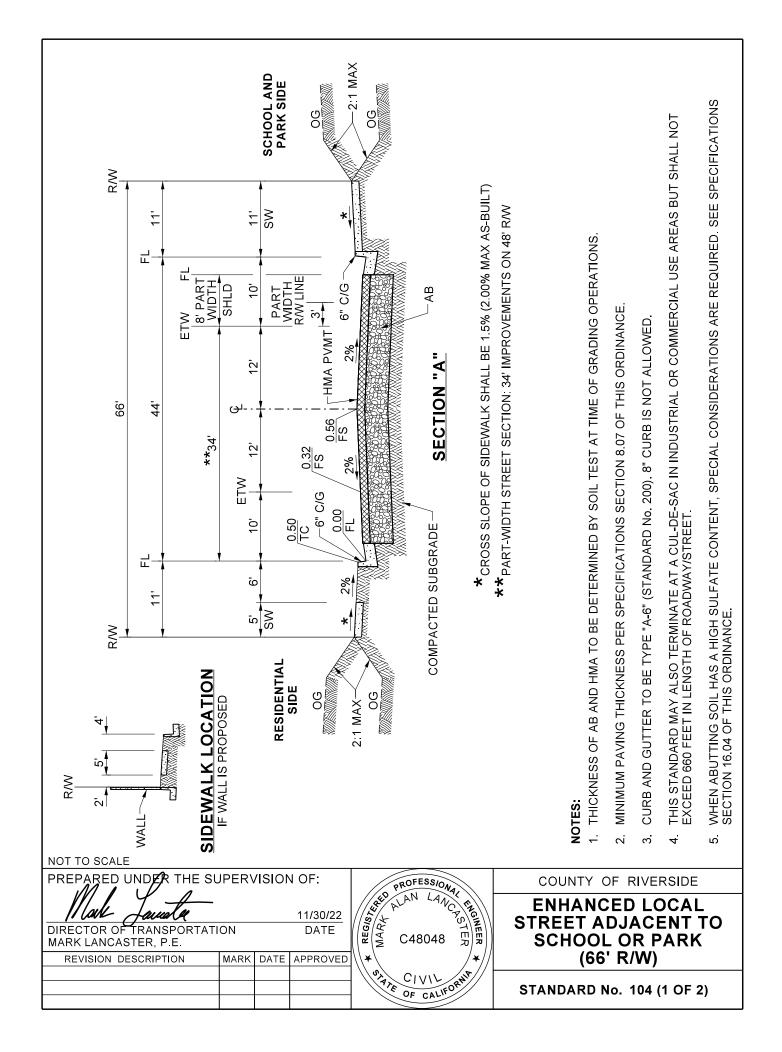


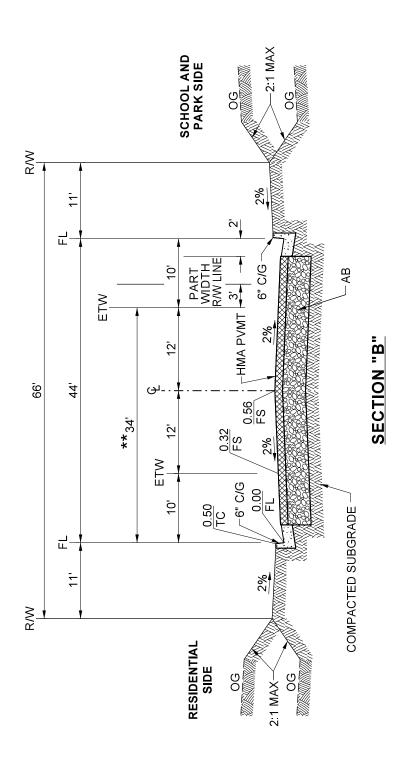
NOTES:

- 1. THICKNESS OF AB AND HMA TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING OPERATIONS.
- 2. MINIMUM PAVING THICKNESS PER SPECIFICATIONS SECTION 8.07 OF THIS ORDINANCE.
- 3. CURB AND GUTTER TO BE TYPE "A-6" (STANDARD No. 200). 8" CURB IS NOT ALLOWED.
- 4. DIRECT RESIDENTIAL DRIVEWAY ACCESS PROHIBITED.

NOT TO SCALE







 $m{\star^{\star}}$ PART-WIDTH STREET SECTION: 34' IMPROVEMENTS ON 48' R/W

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

11/30/22 DATE DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

REVISION DESCRIPTION	MARK	DATE	APPROVED	//
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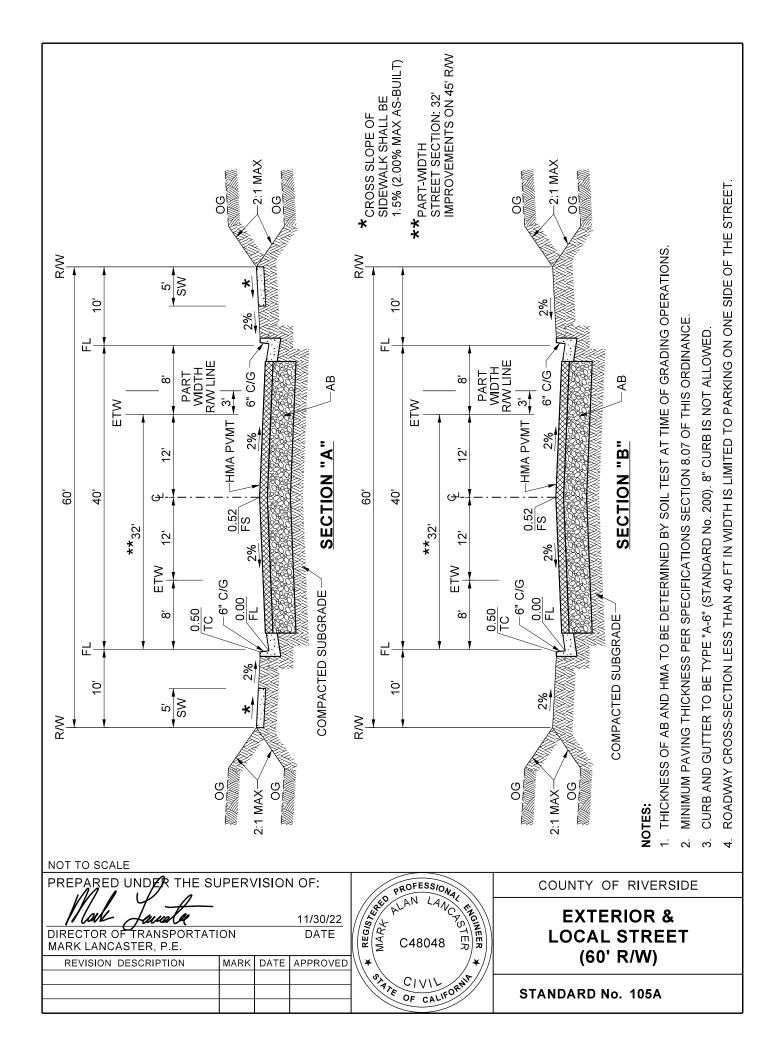
COUNTY OF RIVERSIDE

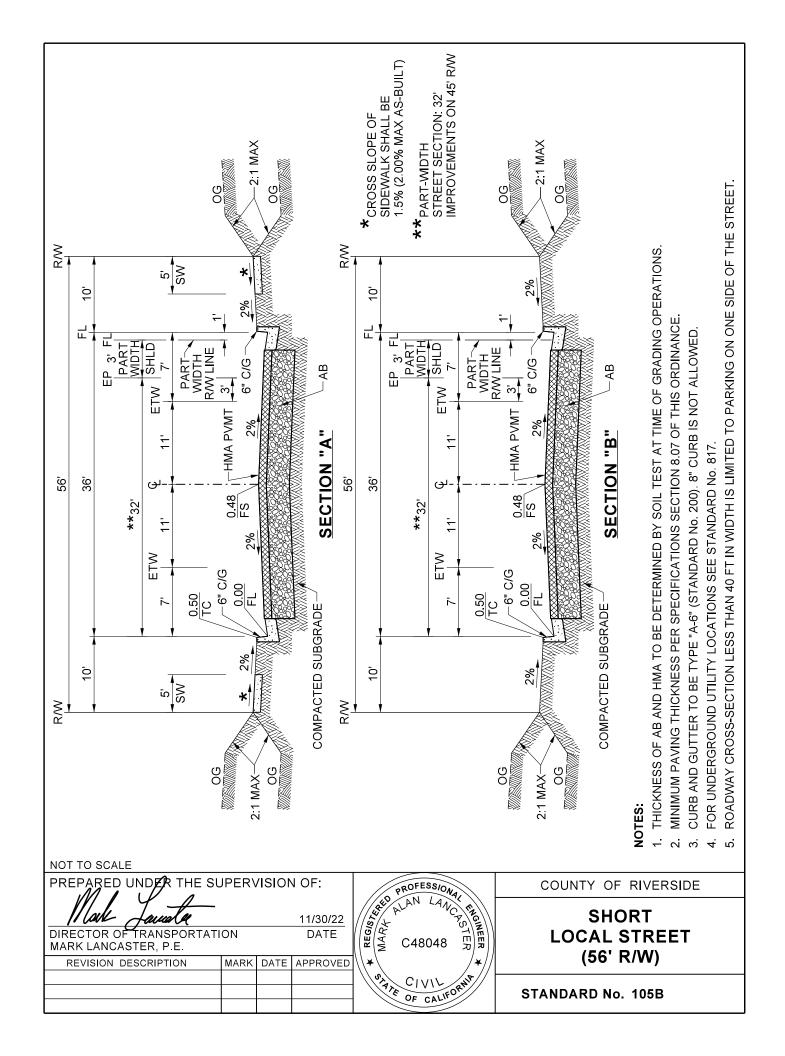
IF WALL IS PROPOSED, SEE SHEET 1 FOR DETAILS.

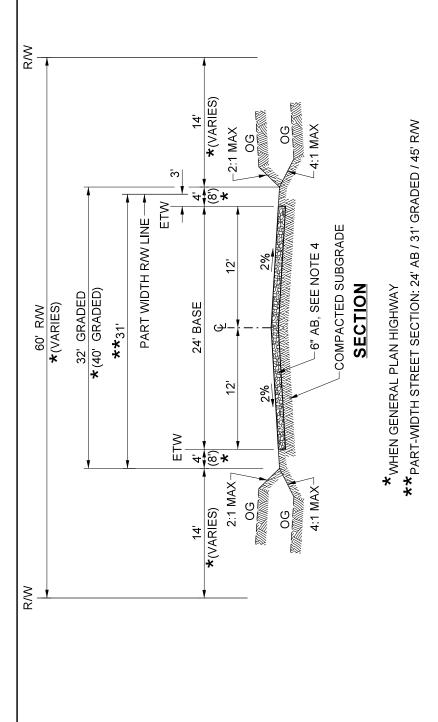
NOTE:

ENHANCED LOCAL STREET ADJACENT TO SCHOOL OR PARK (66' R/W)

STANDARD No. 104 (2 OF 2)







NOTES:

- 1. THICKNESS OF AB TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING OPERATIONS.
- AB PER SPECIFICATIONS SECTION 10 OF THIS ORDINANCE ď
- SAID TREATMENT SHALL BE SUBMITTED DURING IMPROVEMENT PLAN CHECK AND APPROVED BY THE TRANSPORTATION DEPARTMENT. CHEMICAL DUST SUPPRESSANTS SHALL MEET ALL REQUIREMENTS OF STATE AND FEDERAL SAFETY AND SOIL STABILIZER TO BE APPLIED PER IMPROVEMENTS PLANS. THE GRADED ROAD SHALL BE TREATED WITH A DUST SUPPRESSANT THAT IS DESIGNED TO PROVIDE LONG LASTING CONTROL OF FUGITIVE DUST ON A DRIVEABLE SURFACE. ENVIRONMENTAL REGULATIONS. സ<u>.</u>
- AGGREGATE BASE TO BE OF CLASS 3 OR CLASS 4. THE USE OF EXISTING NATIVE MATERIAL MAY BE ALLOWED IF MEETS CLASS 3 OR 4 AGGREGATE BASE PER SPECIFICATION SECTION 10 OF THIS ORDINANCE. 4
- GRADE ROADWAY AND SHOULDER AT 2.00% 2

Ö

RELATIVE COMPACTION OF SUBGRADE AND BASE MATERIAL SHALL BE 95% MIN.

UNPAVED LOCAL ROAD/ **UNPAVED ACCESS ROAD** (60' R/W)

COUNTY OF RIVERSIDE

STANDARD No. 105C

NOT TO SCALE

THE SUPERVISION OF:

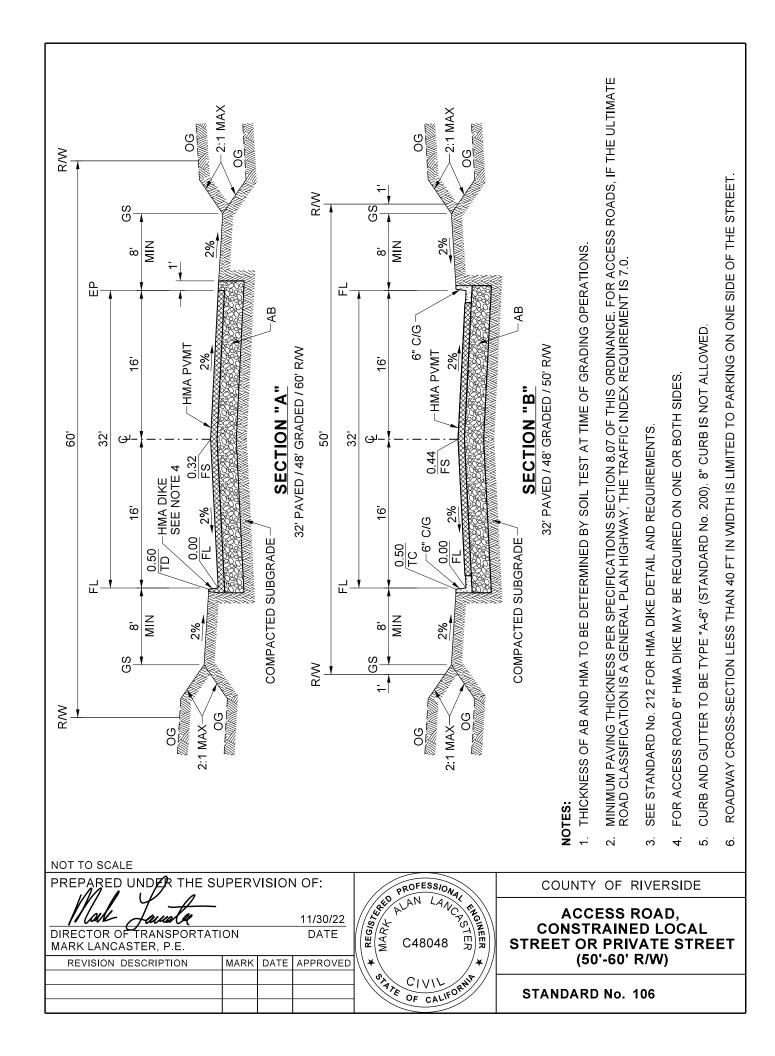
DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

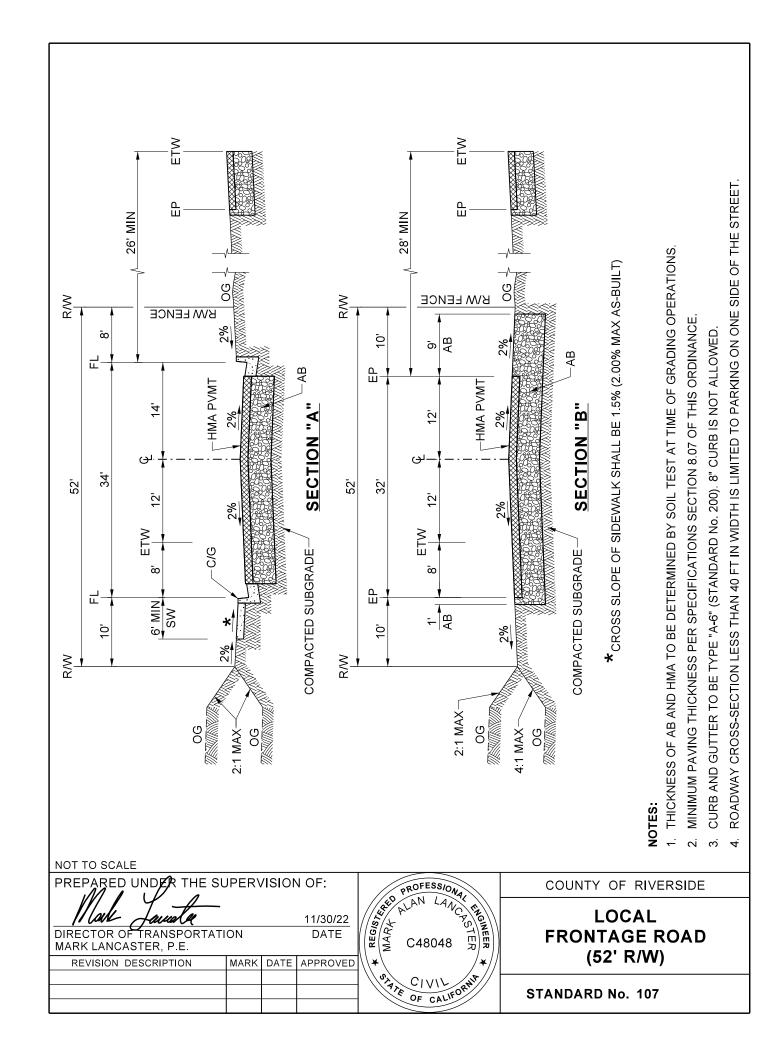
REVISION DESCRIPTION DATE APPROVED MARK

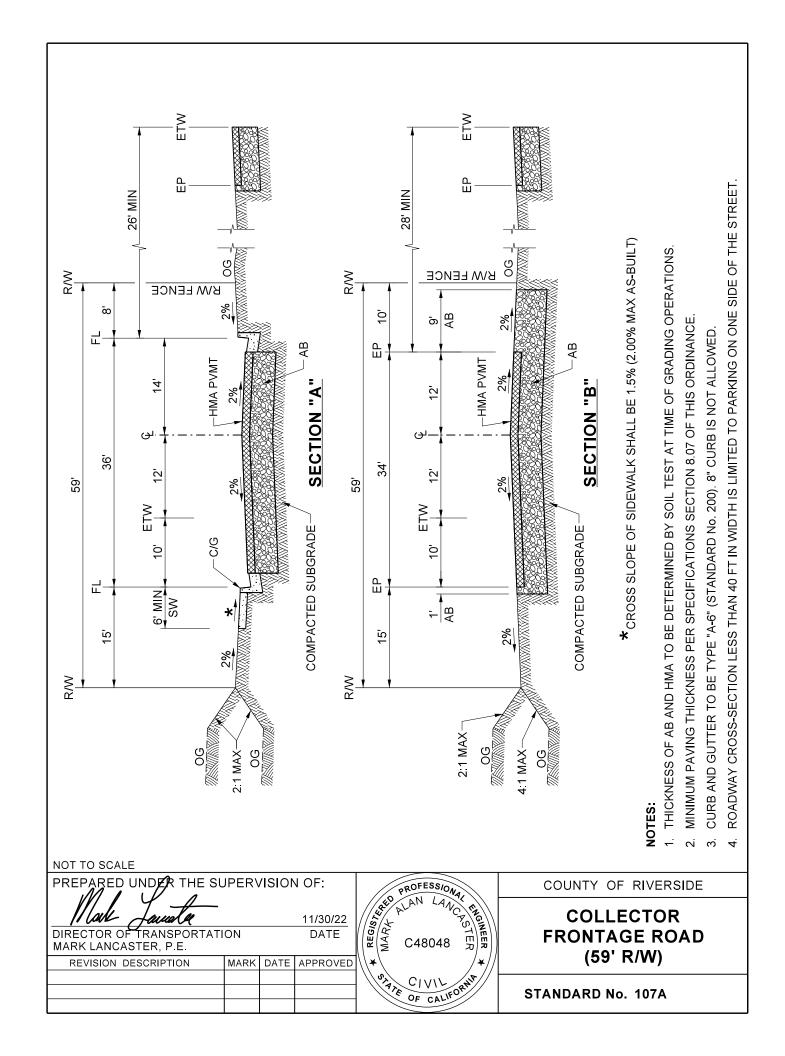


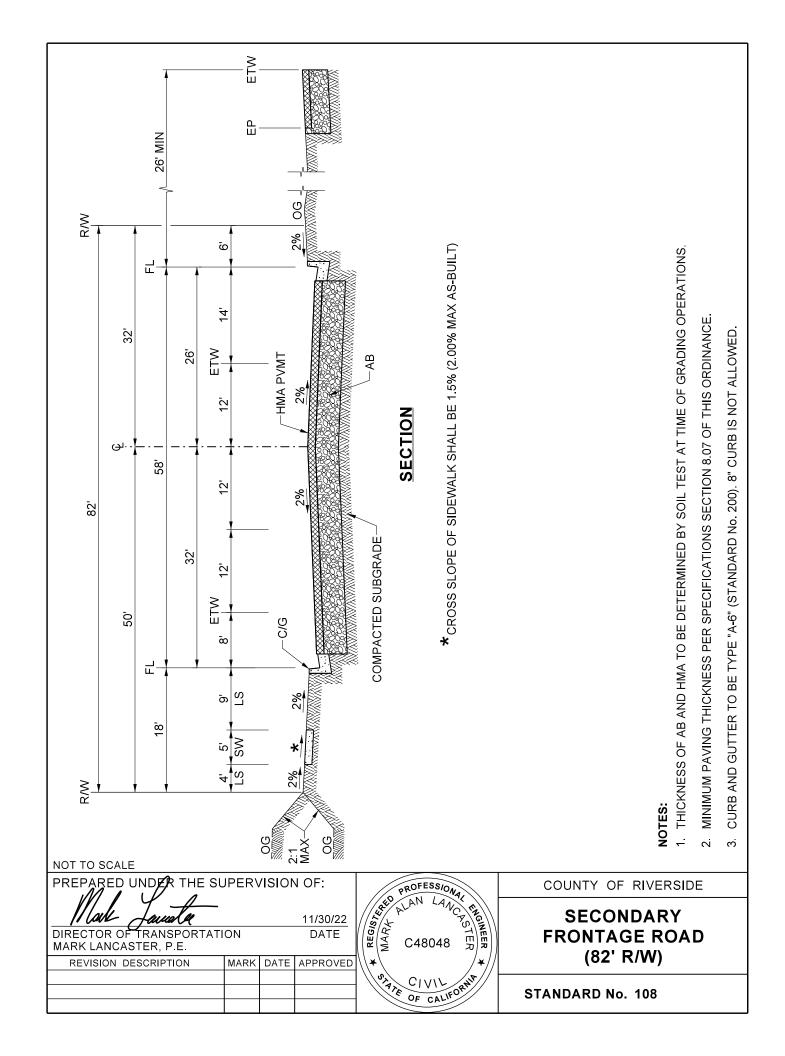
11/30/22

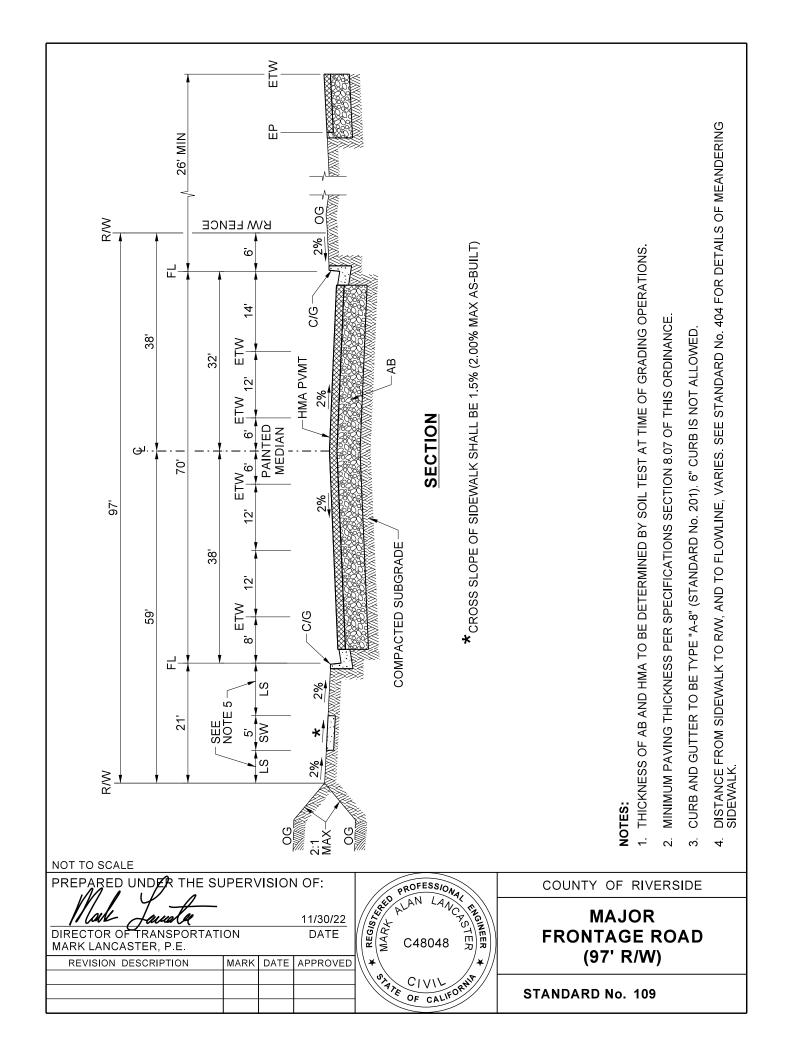
DATE

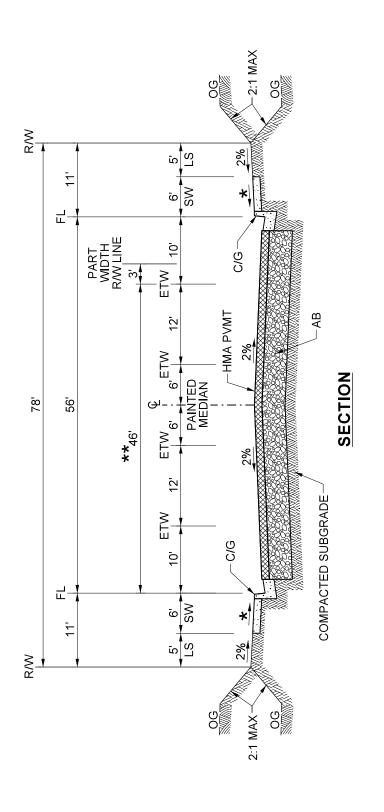












 \star CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

**PART-WIDTH STREET SECTION: 46' IMPROVEMENTS ON 60' R/W

THE SUPERVISION OF:

11/30/22 DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E. DATE

REVISION DESCRIPTION MARK DATE APPROVED



COUNTY OF RIVERSIDE

NOTES:

THICKNESS OF AB AND HMA TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING OPERATIONS.

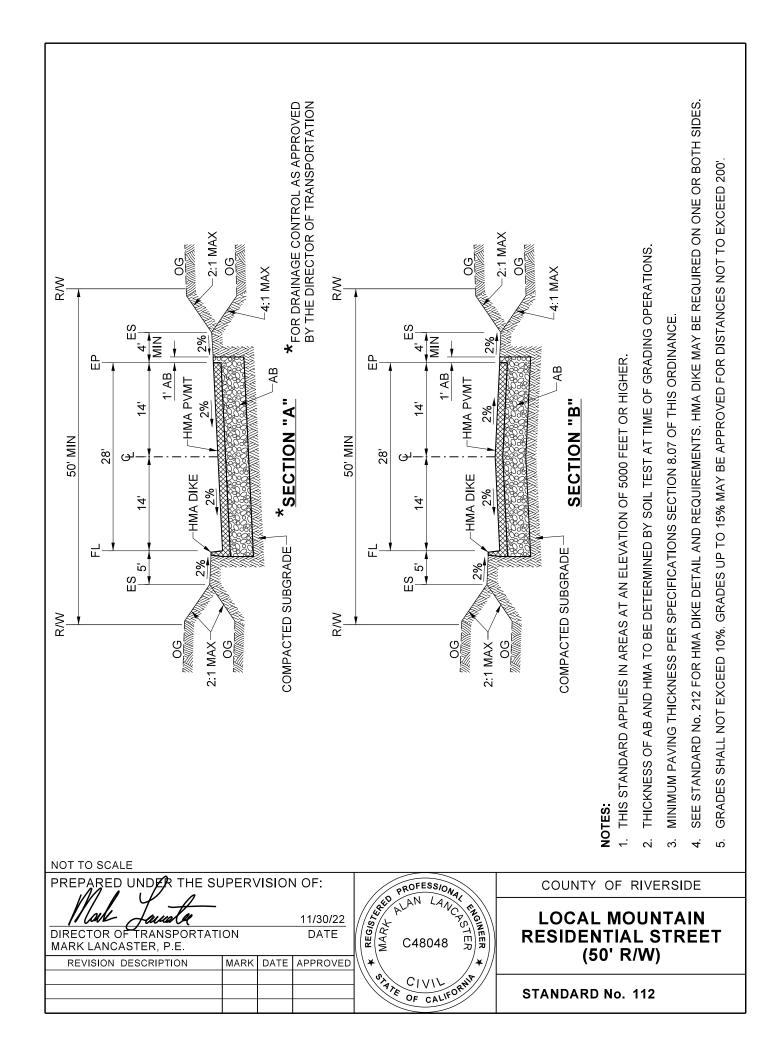
ALL CURB AND GUTTER TO BE TYPE "A-6" (STANDARD No. 200) UNLESS OTHERWISE SPECIFIED.

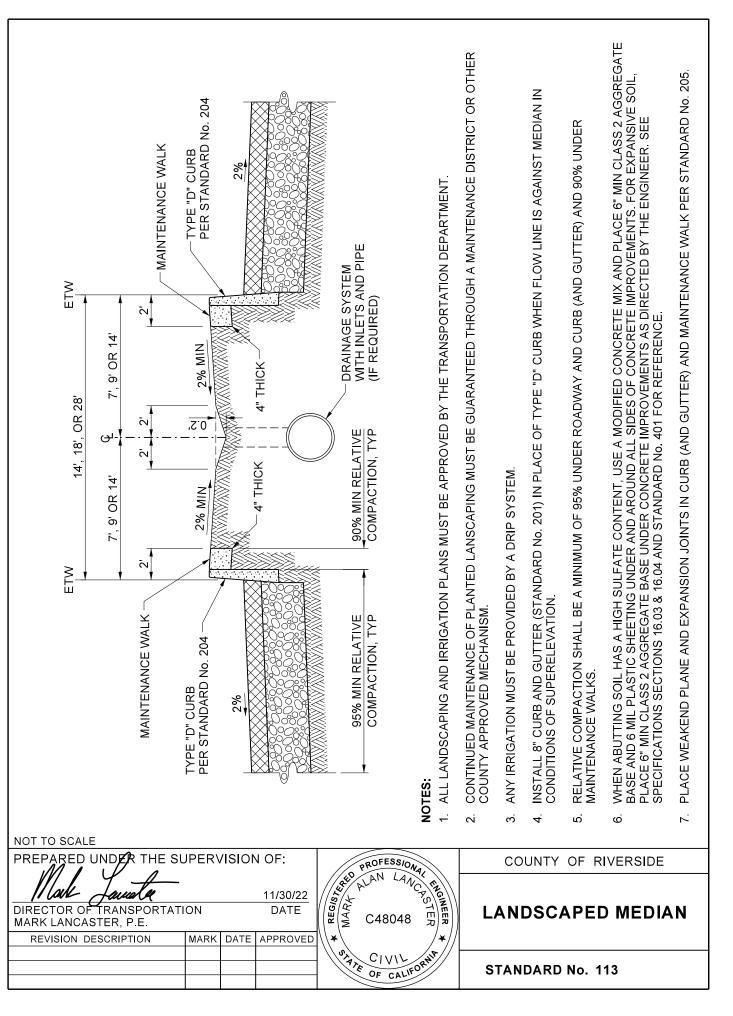
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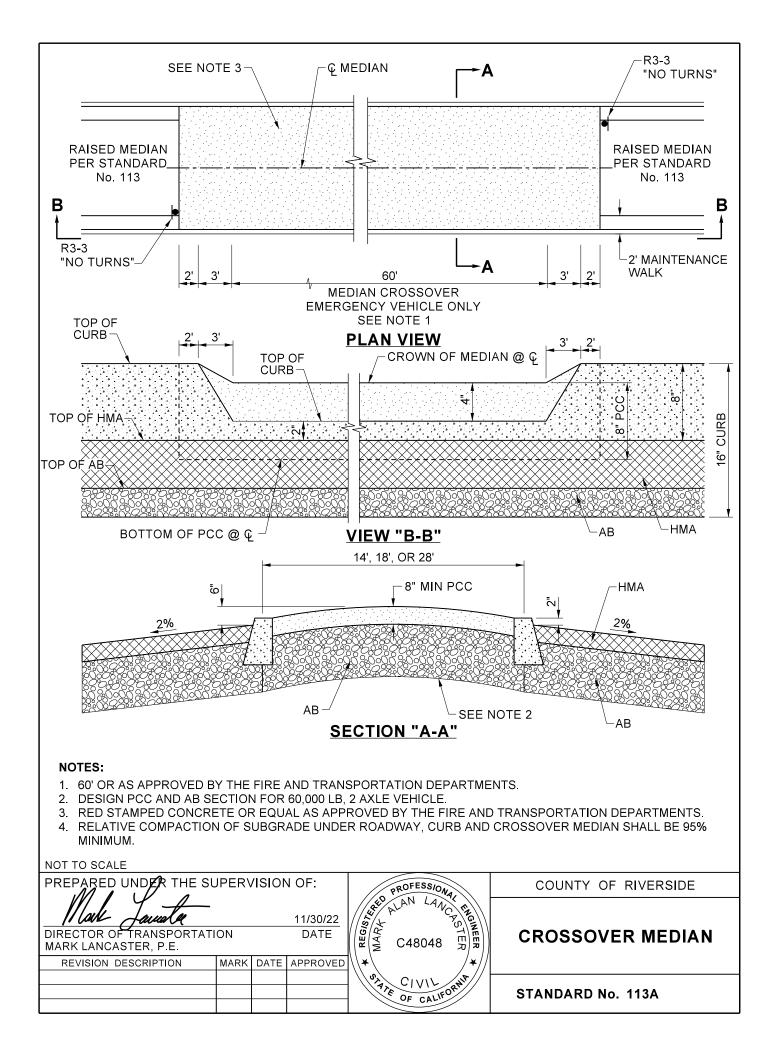
MINIMUM PAVING THICKNESS PER SPECIFICATIONS SECTION 8.07 OF THIS ORDINANCE.

INDUSTRIAL COLLECTOR STREET (78' R/W)

STANDARD No. 111







	EXPRESSWAY	81	11.0	220	SEE	3200 2400		ကပ ၊	65 60		(d) 2640	35
	URBAN ARTERIAL HIGHWAY	91	10.0	152	110	2400	MINIMUM)	ကယ ၊	60 55	Z	(d) 1320	35
ТҮРЕ	ARTERIAL HIGHWAY	92	9.5	128	86	2400	=150'	ოდთ	60 55	RANSPORTATION	(e) 1320	35
	MOUNTAIN ARTERIAL HIGHWAY	92	9.5	110	SEE STD 95	1100	ATION (R	- 12 6	45	TRANSP	(e)	35
	MAJOR HIGHWAY	93	0.6	118	92	1900	OF TRANSPORT	ოდთ	55 50	OR OF	(e)	35
	SECONDARY HIGHWAY	94	8.5	100	64	1400	- 1	ოდთ	50 45	DIRECTO	(e)	35
ROAD	INDUSTRIAL COLLECTOR STREET	111	8.0	78	56	850 600	RECTOR	4 8 7	40 35	Y THE	200	35
	COLLECTOR	103	7.0	74	44	600 450	BY THE DI	4 8 7	35 30	OVED BY	(e) 200	(j)
	ENHANCED LOCAL STREET AT SCHOOL OR PARK (g)	104	6.5	99	44	300		4 8 12	30	S APPROVED	(g) 200	(i)
	EXTERIOR & LOCAL STREET	105A	5.5	09	40	300	AS APPROVED	4 6 9	30	AS	200	(i)
	SHORT LOCAL	105B	5.5	56	36	300		4 6 91	30		200	(j)
	ACCESS ROAD, CONSTRAINED LOCAL OR PRIVATE STREET	106	5.5 (i) MIN	50(i)	32	300		4 6 9	30		N/A	(j)
		STANDARD No.	TRAFFIC INDEX ^(f)	RIGHT-OF-WAY (h) (FT)	SURFACED WIDTH OR CURB TO CURB		MOUNTAINOUS	FLAT FLAT ROLLING MOUNTAINOUS	FLAT	MOUNTAINOUS	INTERSECTION INTERVALS (FT)	CURB RETURN RADIUS (FT)
		STAND	TRAFFI	RIGHT	SURFAC CURB 1		(HORIZ, FT)	MAXIMUM LONGITUDINAL GRADES (%)		SPEEDS (MPH)	INTERSECTION	CURB RETUR

FOR NOTES SEE SHEET 2 NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION
MARK LANCASTER, P.E. 11/30/22 DATE

REVISIO	N DESCRIPTION	MARK	DATE	APPROVED	/\	١
					\	١



COUNTY OF RIVERSIDE

ROADWAY DESIGN REQUIREMENTS

STANDARD No. 114 (1 OF 2)

NOTES:

- (a) MINIMUM PAVING THICKNESS PER SPECIFICATIONS SECTION 8.07 OF THIS ORDINANCE.
- (b) ROADWAY DESIGN LESS THAN SHOWN REQUIRES TRANSPORTATION DEPARTMENT APPROVAL.
- (c) PART-WIDTH STREET SECTIONS SHALL BE IMPROVED AND R/W CONVEYED AS SHOWN ON TYPICAL STREET SECTIONS.
- (d) DIRECT ACCESS PROHIBITED.
- (e) RESIDENTIAL ACCESS PROHIBITED. COMMERCIAL/INDUSTRIAL DRIVEWAY ACCESS AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION.
- (f) FOR DEVELOPMENTS THAT HAVE A SIGNIFICANT AMOUNT OF TRUCK TRAFFIC, THE DEVELOPER MAY BE REQUIRED TO PERFORM A TRAFFIC ANALYSIS TO DETERMINE THE APPROPRIATE TRAFFIC INDEX FOR THE ROADWAY IMPROVEMENTS.
- (g) MAY USE AS A CUL-DE-SAC IN INDUSTRIAL OR COMMERCIAL USE AREAS, INTERSECTION INTERVAL NOT TO EXCEED 660' IN LENGTH.
- (h) ADDITIONAL R/W REQUIRED AT INTERSECTIONS TO ACCOMMODATE TURN LANES PER STANDARD No's. 81, 82, 84, 86 & 91-94. ADDITIONAL R/W MAY BE REQUIRED ON OPPOSITE SIDE OF INTERSECTION TO ALIGN THROUGH LANES.
- (i) FOR ACCESS ROADS, IF THE ULTIMATE ROAD CLASSIFICATION IS A GENERAL PLAN HIGHWAY, THE TRAFFIC INDEX REQUIREMENT IS 7.0. THE MINIMUM R/W WIDTH FOR ACCESS ROADS IS 60 FEET.
- (j) IF BOTH INTERSECTING STREETS HAVE A WIDTH LESS THAN STANDARD No. 111 (INDUSTRIAL COLLECTOR, 78' R/W), THEN THE CURB RETURN RADIUS WILL BE 25'. IF EITHER STREET HAS A WIDTH GREATER THAN OR EQUAL TO STANDARD No. 111 THEN THE CURB RETURN RADIUS WILL BE 35'. SEE STANDARD No. 805 CORNER CUTBACK R/W REQUIREMENTS.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION

MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED



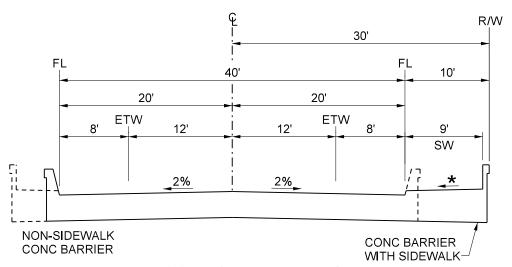
11/30/22

DATE

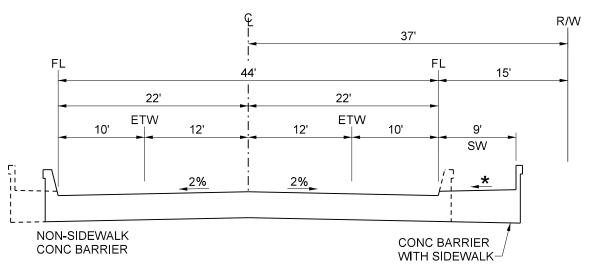
COUNTY OF RIVERSIDE

ROADWAY DESIGN REQUIREMENTS

STANDARD No. 114 (2 OF 2)



LOCAL STREET BRIDGE



COLLECTOR STREET BRIDGE

*CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

NOTES:

NOT TO SCALE

- 1. BRIDGE TYPE TO BE APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 2. RAISED SIDEWALK TO BE PROVIDED. NON-SIDEWALK CONCRETE BARRIER TO BE USED ONLY IF APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- 3. CONCRETE BARRIER SHALL BE TO CALTRANS STANDARDS OR AS APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- 4. REFER TO COUNTY OF RIVERSIDE BRIDGE DESIGN MANUAL FOR ADDITIONAL INFORMATION.

11/30/22

DATE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

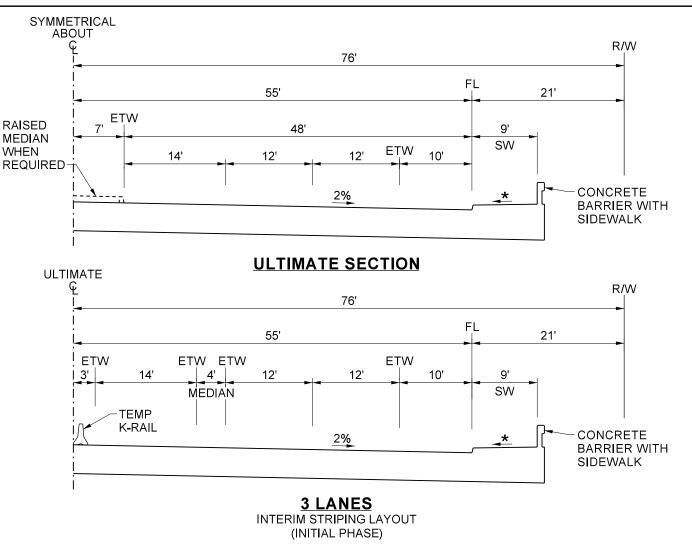
REVISION DESCRIPTION MARK DATE APPROVED



COUNTY OF RIVERSIDE

LOCAL AND COLLECTOR STREET BRIDGE

STANDARD No. 115

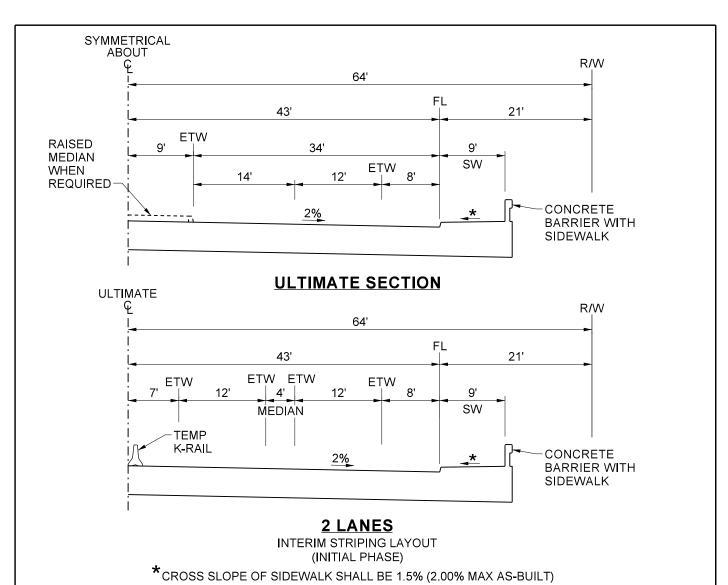


 $^{f \star}$ CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

NOTES:

- 1. ULTIMATE TYPICAL BRIDGE SECTIONS TO BE CONSISTENT WITH THE APPROACH ROAD SECTION AS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 2. BRIDGE TYPE TO BE APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 3. CURBED MEDIAN TO BE USED ONLY WHEN APPROACHING HIGHWAY HAS A RAISED MEDIAN. MEDIAN WIDTH MAY VARY WITH RAISED CURB.
- 4. MEDIAN WIDTH SUBJECT TO VARIATION DEPENDING ON INTERSECTION PROXIMITY.
- 5. RAISED SIDEWALK TO BE PROVIDED. NON-SIDEWALK CONCRETE BARRIER TO BE USED ONLY IF APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- CONCRETE BARRIER SHALL BE TO CALTRANS STANDARDS OR AS APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- 7. REFER TO COUNTY OF RIVERSIDE BRIDGE DESIGN MANUAL FOR ADDITIONAL INFORMATION.

NOT TO SCALE PROFESS...
ALAN LANCASTER
18 PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTER ENGINEER lock 11/30/22 **URBAN ARTERIAL** DIRECTOR OF TRANSPORTATION DATE HIGHWAY BRIDGE MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNIE STANDARD No. 116



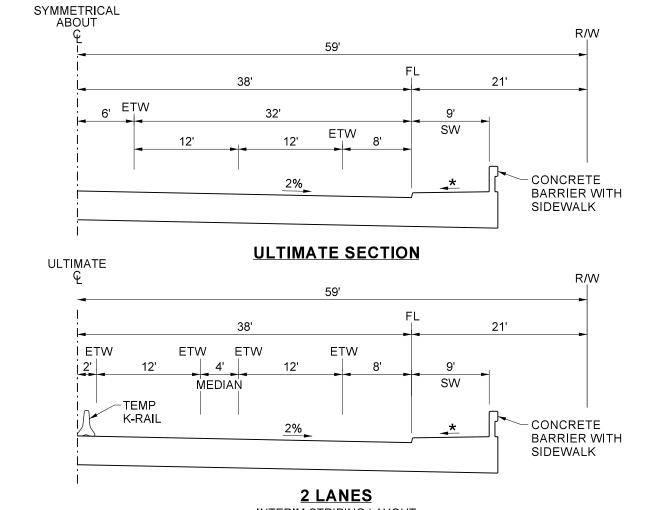
NOTES:

- 1. ULTIMATE TYPICAL BRIDGE SECTIONS TO BE CONSISTENT WITH THE APPROACH ROAD SECTION AS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 2. BRIDGE TYPE TO BE APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 3. CURBED MEDIAN TO BE USED ONLY WHEN APPROACHING HIGHWAY HAS A RAISED MEDIAN. MEDIAN WIDTH MAY VARY WITH RAISED CURB.
- 4. MEDIAN WIDTH SUBJECT TO VARIATION DEPENDING ON INTERSECTION PROXIMITY.
- 5. RAISED SIDEWALK TO BE PROVIDED. NON-SIDEWALK CONCRETE BARRIER TO BE USED ONLY IF APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- CONCRETE BARRIER SHALL BE TO CALTRANS STANDARDS OR AS APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- 7. REFER TO COUNTY OF RIVERSIDE BRIDGE DESIGN MANUAL FOR ADDITIONAL INFORMATION.

NOT TO SCALE PROFESU.

ALAN LANCASTER

18 PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTER ENGINEER lack 11/30/22 ARTERIAL DIRECTOR OF TRANSPORTATION DATE HIGHWAY BRIDGE MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNIA STANDARD No. 117



INTERIM STRIPING LAYOUT (INITIAL PHASE)

*CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

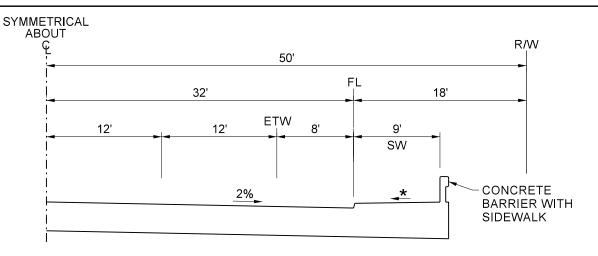
NOTES:

- 1. ULTIMATE TYPICAL BRIDGE SECTIONS TO BE CONSISTENT WITH THE APPROACH ROAD SECTION AS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 2. BRIDGE TYPE TO BE APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 3. CURBED MEDIAN TO BE USED ONLY WHEN APPROACHING HIGHWAY HAS A RAISED MEDIAN. MEDIAN WIDTH MAY VARY WITH RAISED CURB.
- 4. MEDIAN WIDTH SUBJECT TO VARIATION DEPENDING ON INTERSECTION PROXIMITY.
- 5. RAISED SIDEWALK TO BE PROVIDED. NON-SIDEWALK CONCRETE BARRIER TO BE USED ONLY IF APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- CONCRETE BARRIER SHALL BE TO CALTRANS STANDARDS OR AS APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- 7. REFER TO COUNTY OF RIVERSIDE BRIDGE DESIGN MANUAL FOR ADDITIONAL INFORMATION.

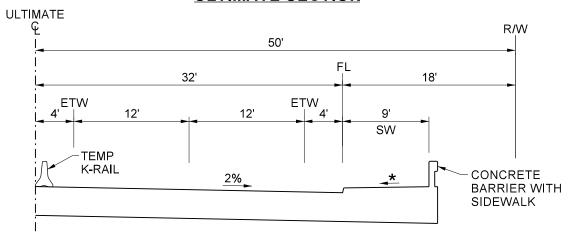
NOT TO SCALE PROFESU.

ALAN LANCASTER

18 PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTER ENGINEER lack 11/30/22 **MAJOR** DIRECTOR OF TRANSPORTATION DATE HIGHWAY BRIDGE MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNIA STANDARD No. 118



ULTIMATE SECTION



2 LANES

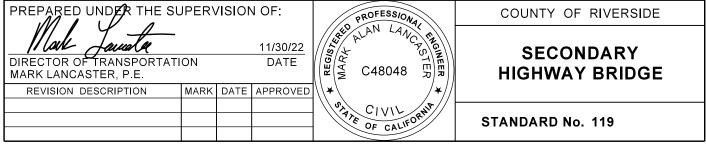
INTERIM STRIPING LAYOUT (INITIAL PHASE)

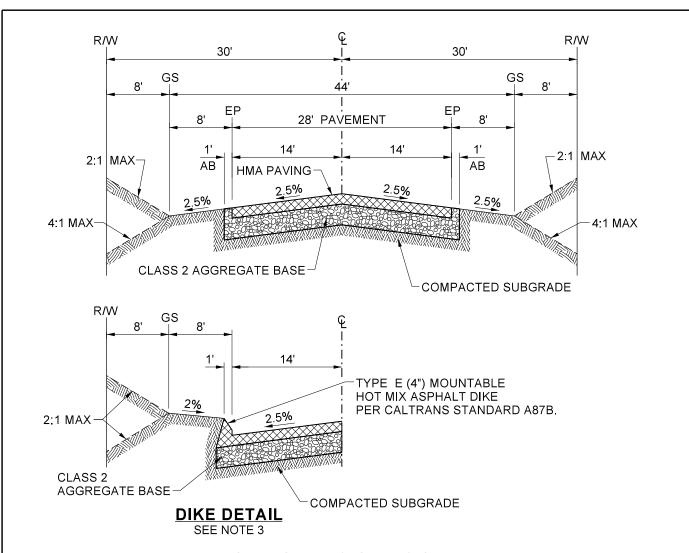
*CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

NOTES:

- 1. ULTIMATE TYPICAL BRIDGE SECTIONS TO BE CONSISTENT WITH THE APPROACH ROAD SECTION AS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 2. BRIDGE TYPE TO BE APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 3. RAISED SIDEWALK TO BE PROVIDED. NON-SIDEWALK CONCRETE BARRIER TO BE USED ONLY IF APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- 4. CONCRETE BARRIER SHALL BE TO CALTRANS STANDARDS OR AS APPROVED BY THE DIRECTOR OF TRANSPORTATION.
- 5. REFER TO COUNTY OF RIVERSIDE BRIDGE DESIGN MANUAL FOR ADDITIONAL INFORMATION.

NOT TO SCALE



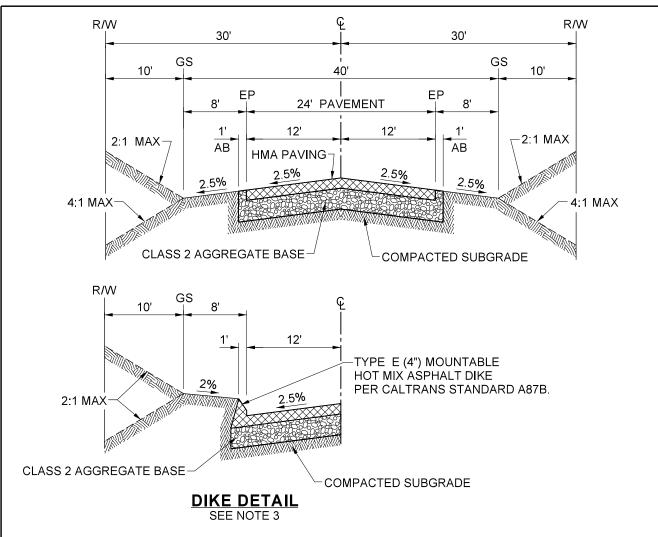


SERVING 21 THROUGH 49 LOTS 1/2 ACRE GROSS MINIMUM LOT SIZE

NOTES:

- 1. THICKNESS OF AB AND HMA TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING OPERATIONS.
- 2. MINIMUM THICKNESS FOR HMA IS 0.25'; FOR AGGREGATE BASE IS 0.50'.
- 3. TO CONTROL DRAINAGE, PREVENT EROSION OR IF THE ROADWAY GRADIENT IS 6% OR GREATER, MOUNTABLE HMA DIKES SHALL BE REQUIRED. MOUNTABLE HMA DIKES AND WIDER PAVEMENT MAY BE REQUIRED FOR SAFETY, DRAINAGE, AND/OR CONTINUITY AS DETERMINED BY THE TRANSPORTATION DEPARTMENT.
- 4. THIS RURAL ROAD STANDARD SHALL BE APPLICABLE IN THE FOLLOWING AREAS: LAKE MATHEWS COMMUNITY PLAN (CSA 128) AND COUNTY SERVICE AREAS NUMBERED 41, 86, 104, 105, 108, 117, 124, AND 149 OR IF CONDITIONED BY THE TRANSPORTATION DEPARTMENT.
- 5. THE MINIMUM RADII, MAXIMUM GRADE PERCENTAGE, INTERSECTION INTERVALS, AND ALL OTHER DESIGN STANDARDS EXCEPT PAVEMENT WIDTH AND R/W SHALL BE THE SAME AS THOSE FOR A "LOCAL STREET" AS REQUIRED BY STANDARD No. 114.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONA COUNTY OF RIVERSIDE REGISTER ENGINEER COLLECTOR coll 11/30/22 RURAL ROAD DIRECTOR OF TRANSPORTATION DATE C48048 MARK LANCASTER, P.E. (60' R/W) REVISION DESCRIPTION MARK DATE APPROVED (SEE NOTE 4) CIVIV OF CALIFORN STANDARD No. 136

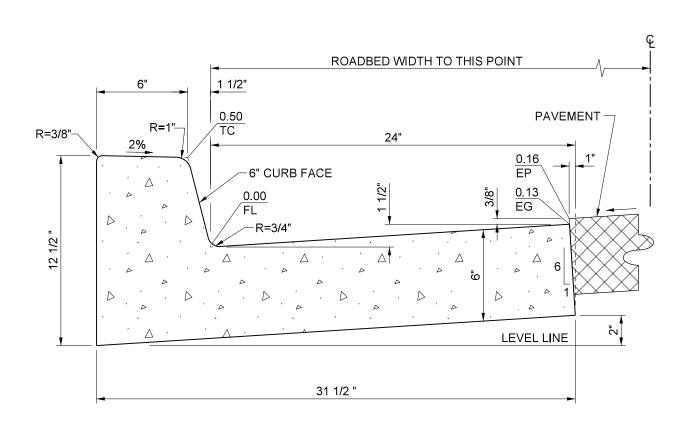


SERVING 20 OR FEWER LOTS 2 ACRE GROSS MINIMUM LOT SIZE

NOTES:

- 1. THICKNESS OF AB AND HMA TO BE DETERMINED BY SOIL TEST AT TIME OF GRADING OPERATIONS.
- 2. MINIMUM THICKNESS FOR HMA IS 0.25'; FOR AGGREGATE BASE IS 0.50'.
- 3. TO CONTROL DRAINAGE, PREVENT EROSION OR IF THE ROADWAY GRADIENT IS 6% OR GREATER, MOUNTABLE HMA DIKES SHALL BE REQUIRED. MOUNTABLE HMA DIKES AND WIDER PAVEMENT MAY BE REQUIRED FOR SAFETY, DRAINAGE, AND/OR CONTINUITY AS DETERMINED BY THE TRANSPORTATION DEPARTMENT.
- 4. THIS RURAL ROAD STANDARD SHALL BE APPLICABLE IN THE FOLLOWING AREAS: LAKE MATHEWS COMMUNITY PLAN (CSA 128) AND COUNTY SERVICE AREAS NUMBERED 41, 86, 104, 105, 108, 117, 124, AND 149.
- 5. THE MINIMUM RADII, MAXIMUM GRADE PERCENTAGE, INTERSECTION INTERVALS, AND ALL OTHER DESIGN STANDARDS EXCEPT PAVEMENT WIDTH AND R/W SHALL BE THE SAME AS THOSE FOR A "LOCAL STREET" AS REQUIRED BY STANDARD No. 114.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONA COUNTY OF RIVERSIDE REGISTER ENGINEER RESIDENTIAL lack 11/30/22 RURAL ROAD DIRECTOR OF TRANSPORTATION DATE C48048 MARK LANCASTER, P.E. (60' R/W) REVISION DESCRIPTION MARK DATE APPROVED (SEE NOTE 4) CIVI OF CALIFORN STANDARD No. 138

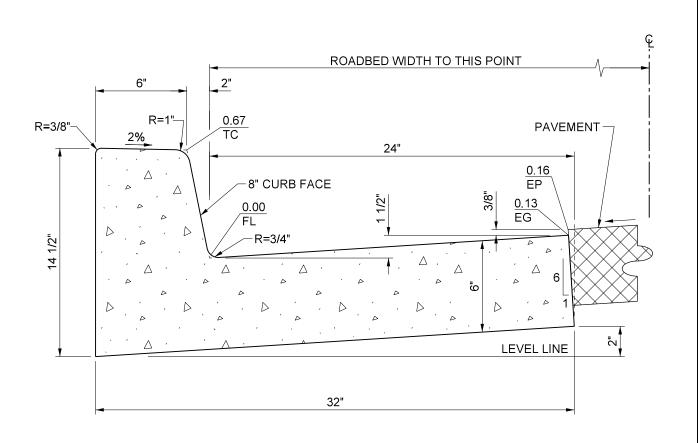


1.601 CU FT / LF 1 CU YD = 16.86 LF

NOTES:

- 1. RELATIVE COMPACTION OF SUBGRADE UNDER CURB AND GUTTER SHALL BE 95% MINIMUM.
- 2. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTER ENGINEER coll TYPE A-6 11/30/22 DIRECTOR OF TRANSPORTATION DATE **CURB AND GUTTER** MARK LANCASTER, P.E. **6" CURB FACE** REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN STANDARD No. 200

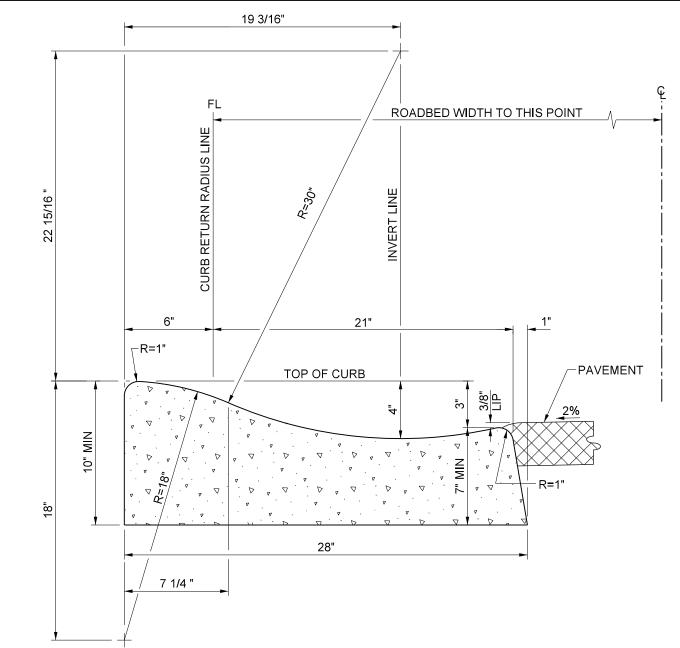


1.73 CU FT / LF 1 CU YD = 15.60 LF

NOTES:

- 1. RELATIVE COMPACTION OF SUBGRADE UNDER CURB AND GUTTER SHALL BE 95% MINIMUM.
- 2. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE PROFESS. ALAN LANCASTER PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTERS -ENGINEER coll TYPE A-8 11/30/22 DIRECTOR OF TRANSPORTATION DATE **CURB AND GUTTER** MARK LANCASTER, P.E. 8" CURB FACE REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN STANDARD No. 201

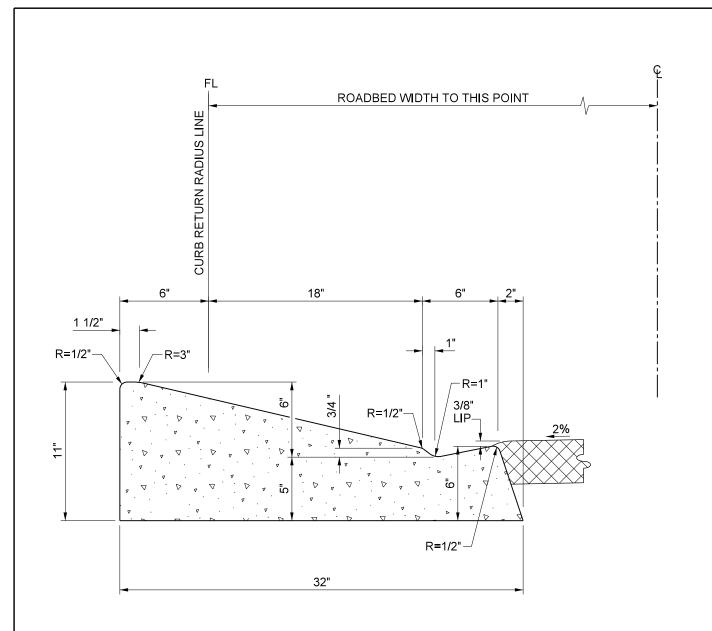


1.418 CU FT / LF 1 CU YD = 19.05 LF

NOTES:

- 1. RELATIVE COMPACTION OF SUBGRADE UNDER CURB AND GUTTER SHALL BE 95% MINIMUM.
- 2. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: REGIS/EPA COUNTY OF RIVERSIDE ENGINEER coll 11/30/22 **TYPE "C" CURB** DIRECTOR OF TRANSPORTATION DATE **ROLLED CURB** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN STANDARD No. 202

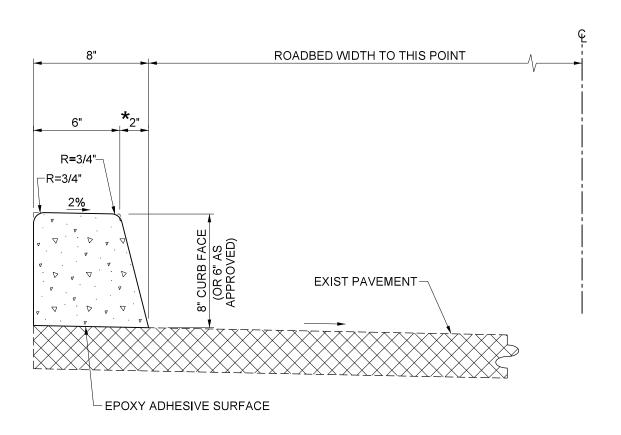


1.666 CU FT / LF 1 CU YD = 16.21 LF

NOTES:

- 1. RELATIVE COMPACTION OF SUBGRADE UNDER CURB AND GUTTER SHALL BE 95% MINIMUM.
- 2. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: REGISTER D COUNTY OF RIVERSIDE ENGINEER coll 11/30/22 **TYPE "W" CURB** DIRECTOR OF TRANSPORTATION DATE **WEDGE CURB** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED CIVI OF CALIFORN STANDARD No. 202A



*1 1/2" FOR 6" CURB FACE

MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD

0.391 CU FT / LF 1 CU YD = 69.05 LF

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION

MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED



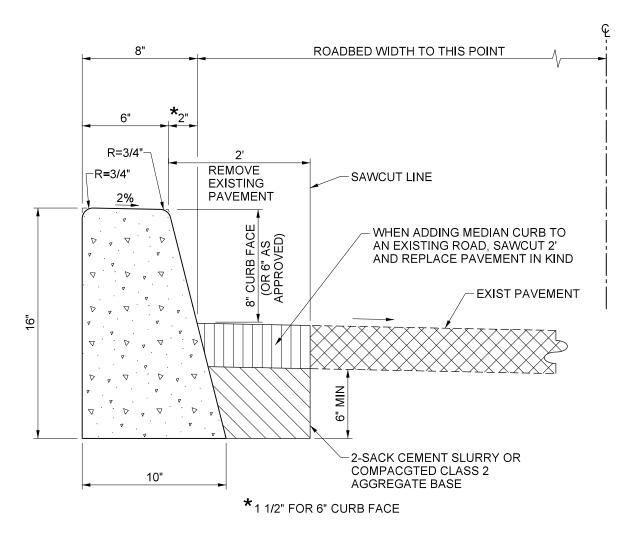
11/30/22

DATE

COUNTY OF RIVERSIDE

TYPE "D-1" CURB ONLY ON EXISTING PAVEMENT

STANDARD No. 203

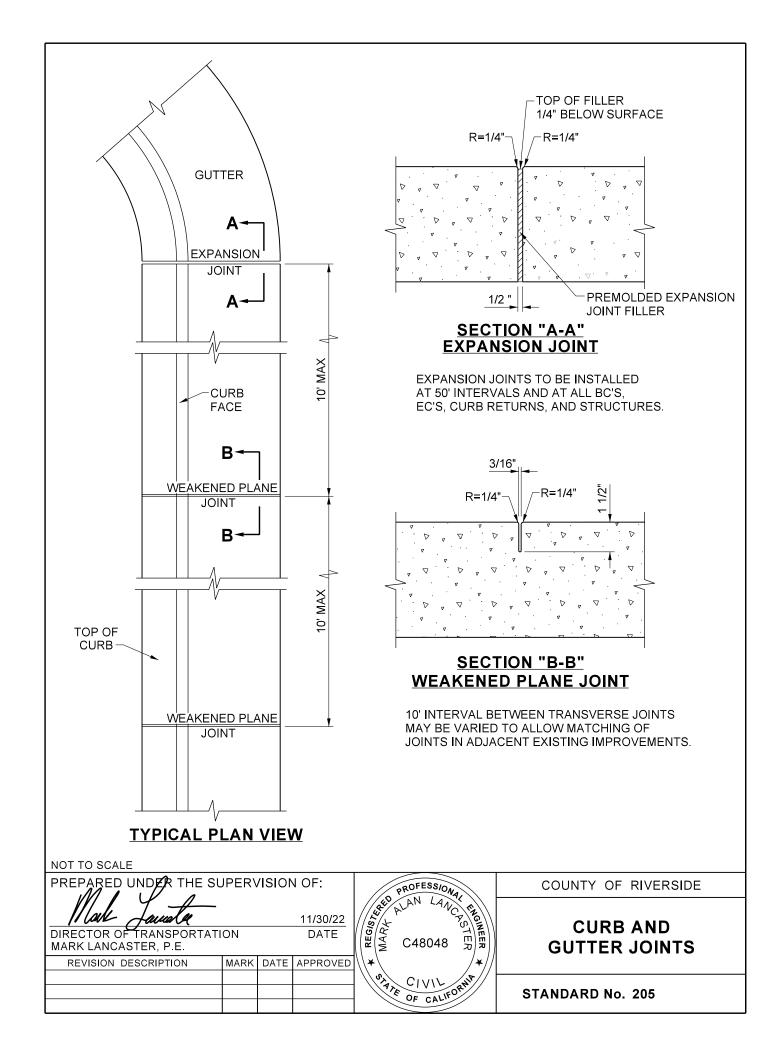


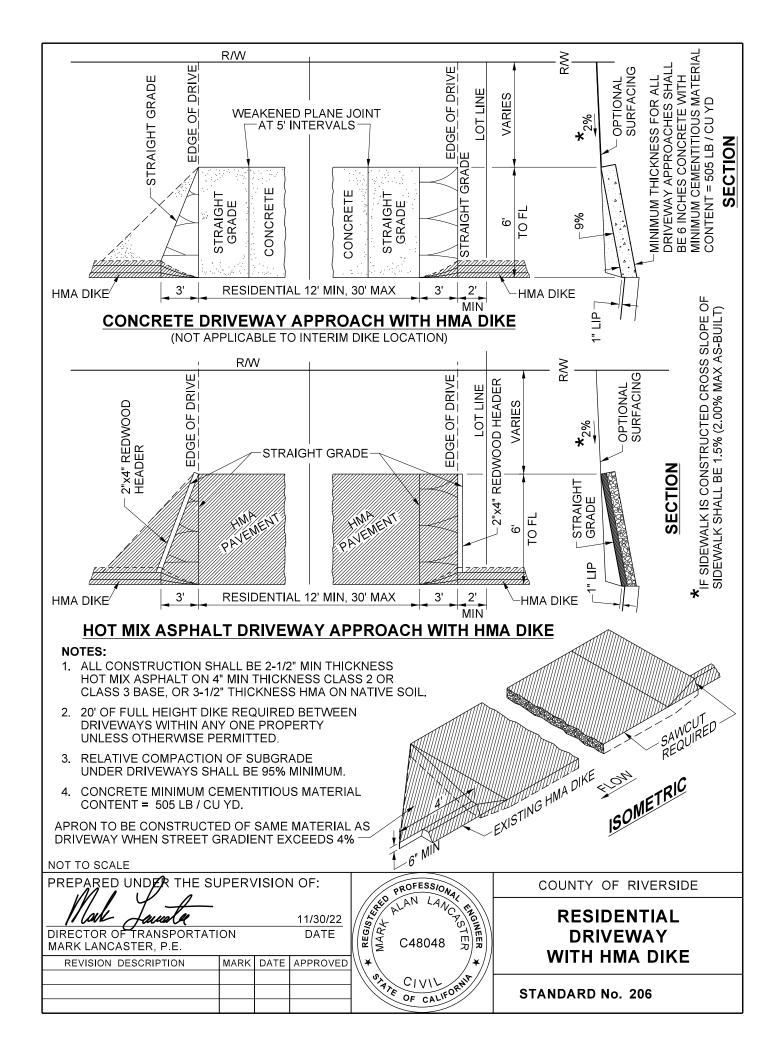
0.888 CU FT / LF 1 CU YD = 30.41 LF

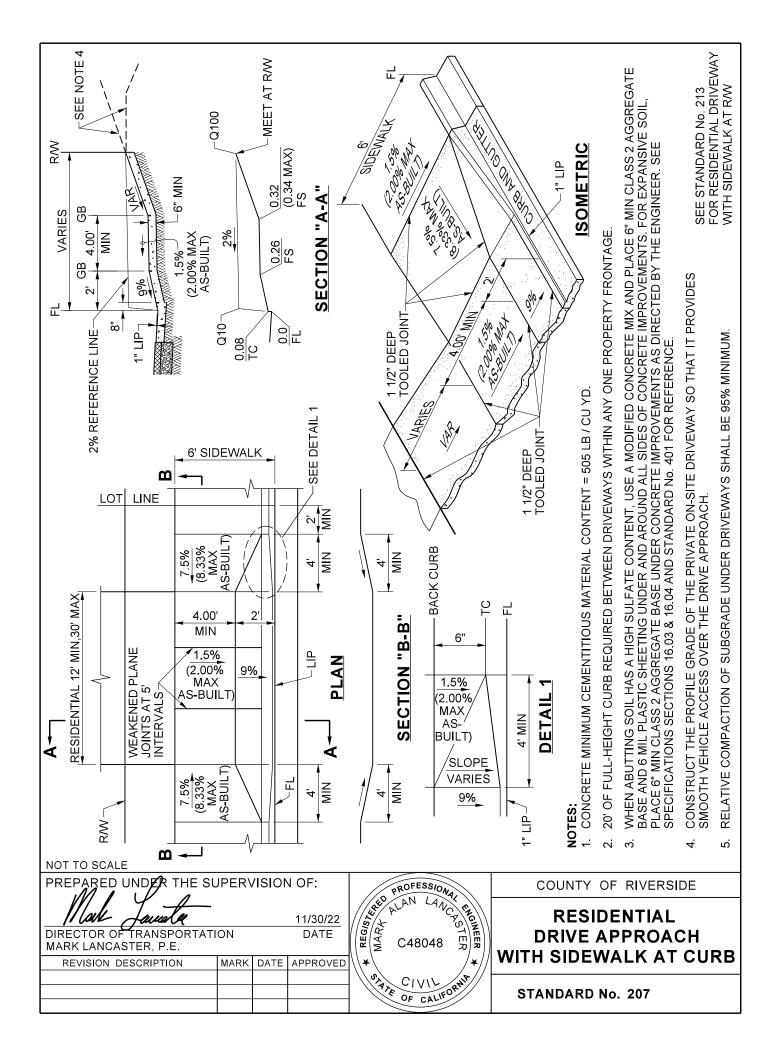
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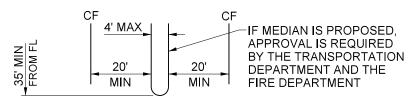
- 1. RELATIVE COMPACTION OF SUBGRADE UNDER CURB AND GUTTER AND NEW PAVEMENT SHALL BE 95% MINIMUM.
- 2. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE PROFESS. PREPARED UNDER THE SUPERVISION OF: REGISTERS -COUNTY OF RIVERSIDE ENGINEER coll 11/30/22 DIRECTOR OF TRANSPORTATION DATE TYPE "D" CURB ONLY MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN STANDARD No. 204

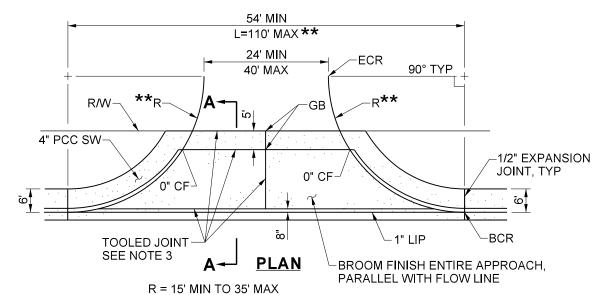




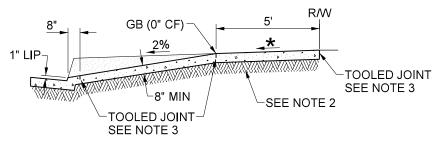




MEDIAN DETAIL



** SERVICE ENTRANCES ONLY: L=140' MAX, R=50' MAX



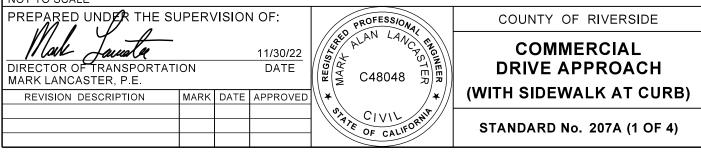
SECTION "A-A"

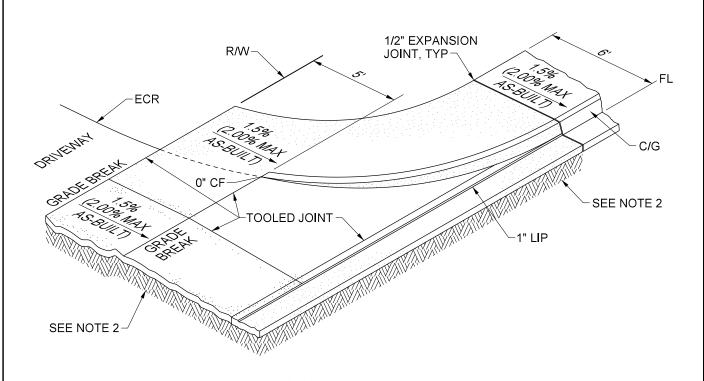
*CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

NOTES:

- 1. DRIVEWAY APPROACH SHALL BE 8" CONCRETE WITH MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.
- 2. RELATIVE COMPACTION OF SUBGRADE UNDER DRIVEWAY APPROACH SHALL BE 95% MIN.
- 3. APPROACHES SHALL HAVE 1 1/2" DEEP 3/16" WIDE TOOLED JOINT AT CENTER OF APPROACH AND AS SHOWN HEREON, ALL OTHER SCORE LINES SHALL BE 10'-0" MAX OC.
- 4. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE





ISOMETRIC VIEW

FOR NOTES SEE SHEET 1

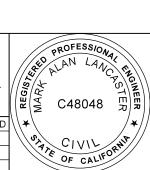
PREPARED UNDER THE SUPERVISION OF:

II W Javale 11/30/22 DIRECTOR OF TRANSPORTATION DATE

MARK LANCASTER, P.E.

NOT TO SCALE

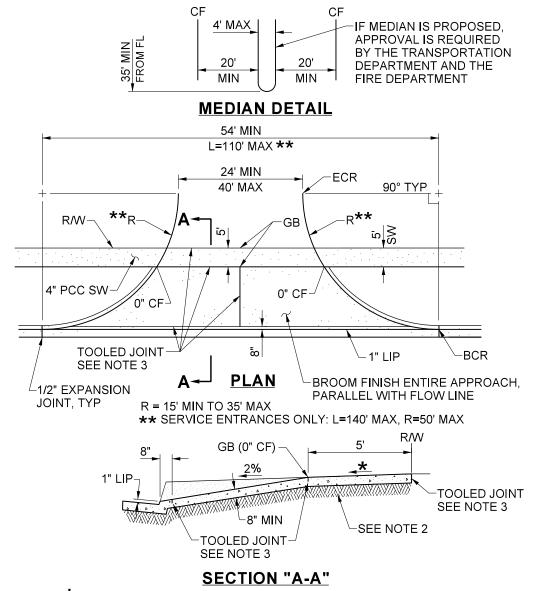
REVISION DESCRIPTION MARK DATE APPROVED



COUNTY OF RIVERSIDE

COMMERCIAL DRIVE APPROACH (WITH SIDEWALK AT CURB)

STANDARD No. 207A (2 OF 4)



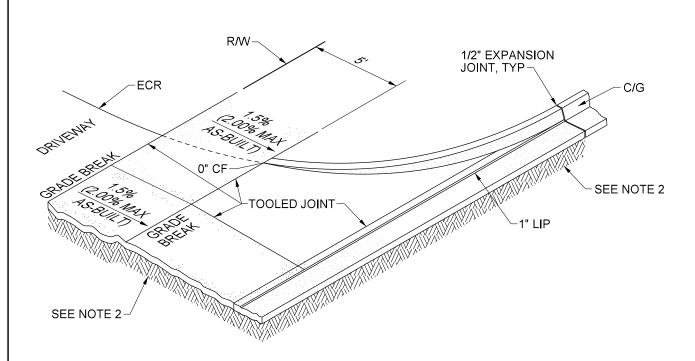
*CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

NOTES:

- 1. DRIVEWAY APPROACH SHALL BE 8" CONCRETE WITH MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.
- 2. RELATIVE COMPACTION OF SUBGRADE UNDER DRIVEWAY APPROACH SHALL BE 95% MIN.
- 3. APPROACHES SHALL HAVE 1 1/2" DEEP 3/16" WIDE TOOLED JOINT AT CENTER OF APPROACH AND AS SHOWN HEREON. ALL OTHER SCORE LINES SHALL BE 10'-0" MAX OC.
- 4. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE





ISOMETRIC VIEW

FOR NOTES SEE SHEET 3 NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

1 Lack 11/30/22 DIRECTOR OF TRANSPORTATION DATE

MARK LANCASTER, P.E. REVISION DESCRIPTION

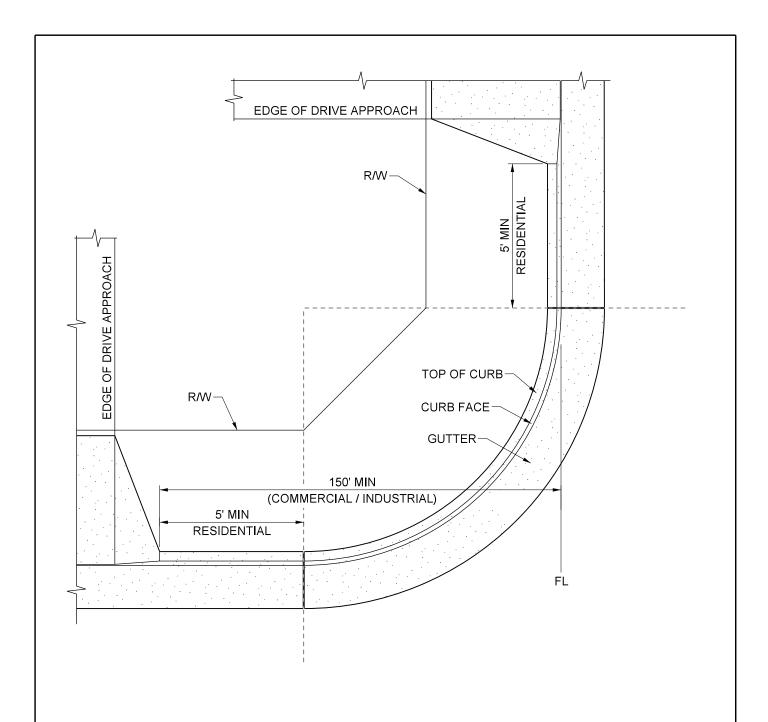
MARK DATE APPROVED



COMMERCIAL DRIVE APPROACH (WITH SIDEWALK AT R/W)

COUNTY OF RIVERSIDE

STANDARD No. 207A (4 OF 4)



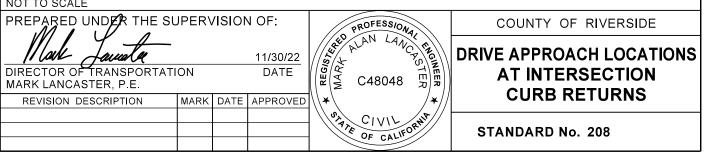
RESIDENTIAL ONLY:

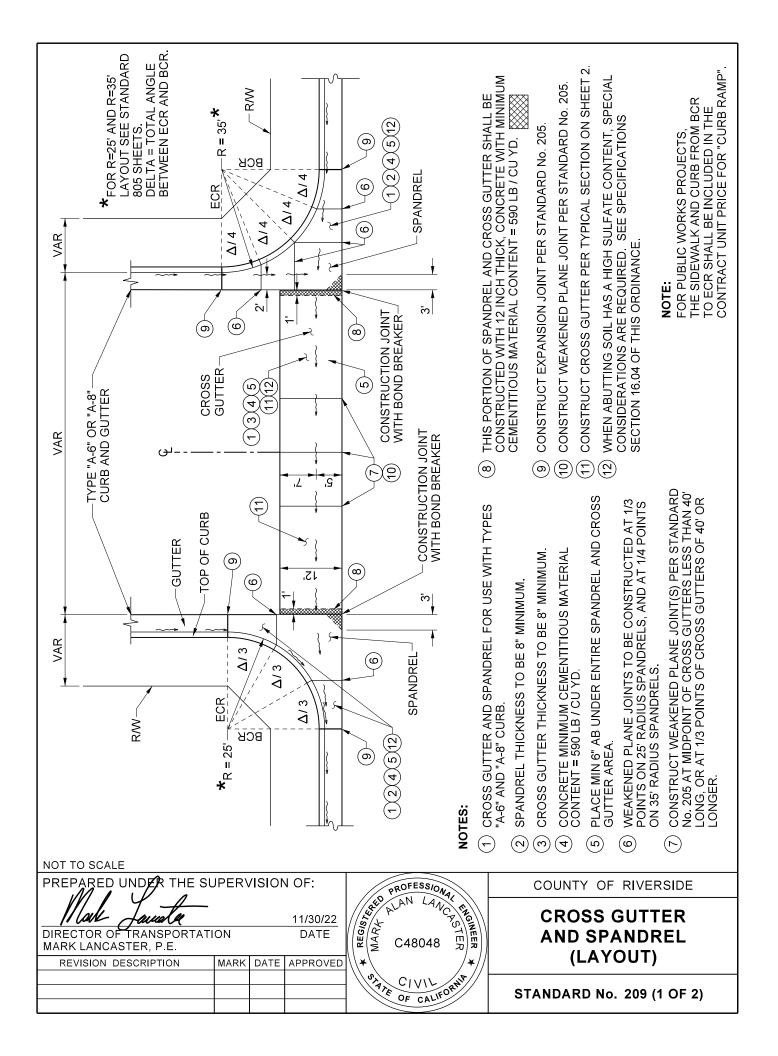
NO PORTION OF ANY DRIVE APPROACH SHALL BE PERMITTED WITHIN 5' OF THE POINTS OF CURVATURE.

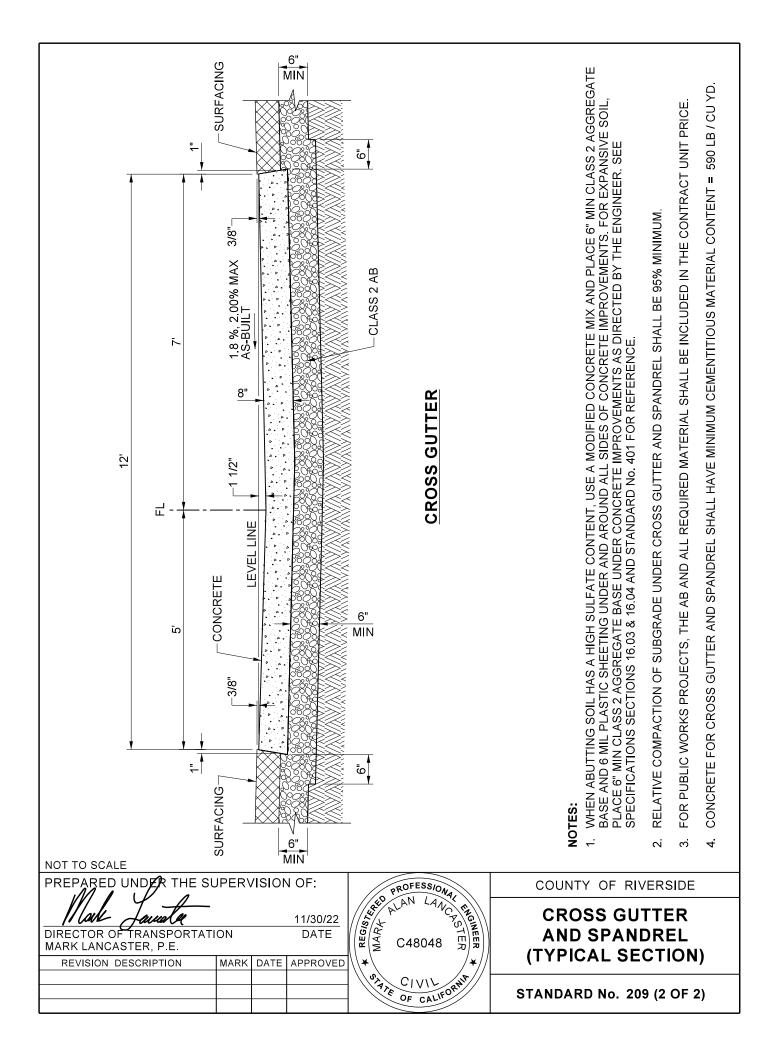
COMMERCIAL / INDUSTRIAL:

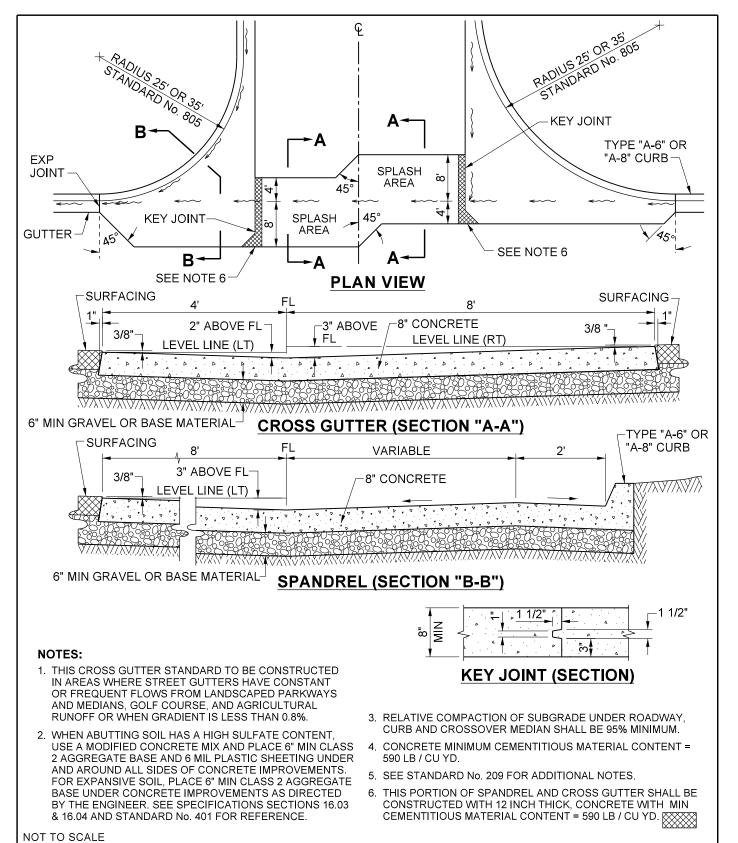
NO PORTION OF ANY DRIVE APPROACH SHALL BE PERMITTED WITHIN 150' OF THE FLOWLINE OF AN INTERSECTING STREET OR AS APPROVED BY THE DIRECTOR OF TRANSPORTATION.

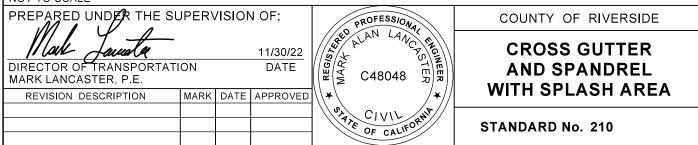
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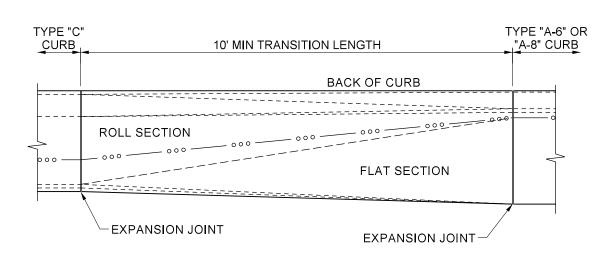




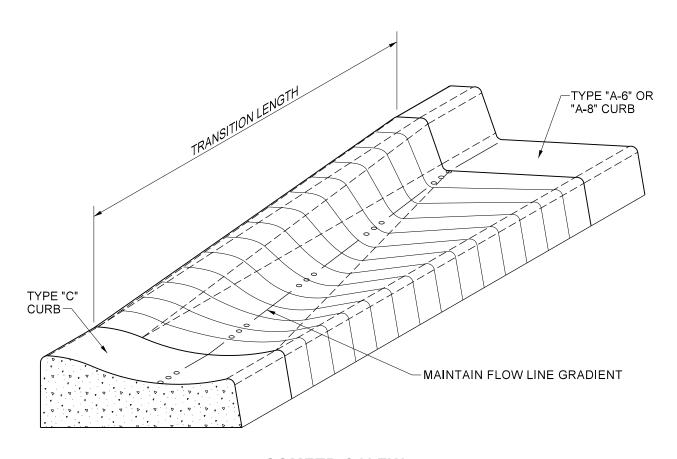






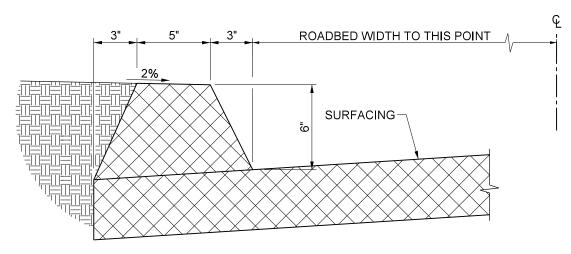


PLAN VIEW

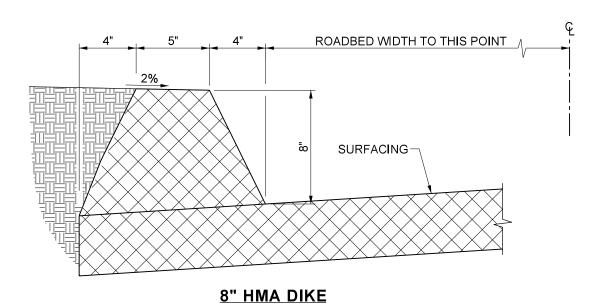


ISOMETRIC VIEW

MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD.

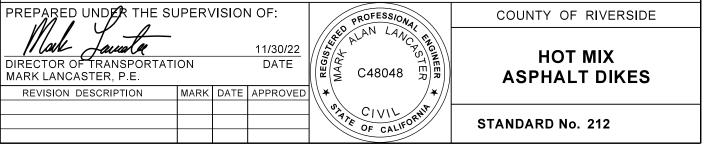


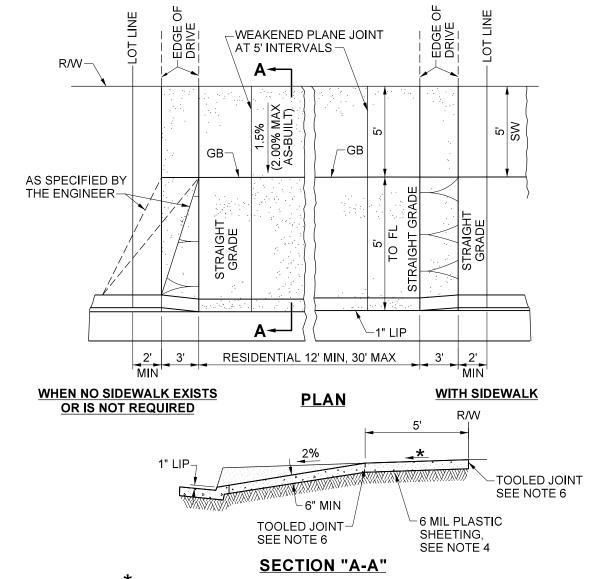
6" HMA DIKE



1. HMA DIKE REQUIRED WHERE FILL SLOPES ARE STEEPER THAN 4:1, MATERIAL IS SUSCEPTIBLE TO EROSION, OR WHERE ROADWAY GRADIENT EXCEEDS 3%.

NOT TO SCALE





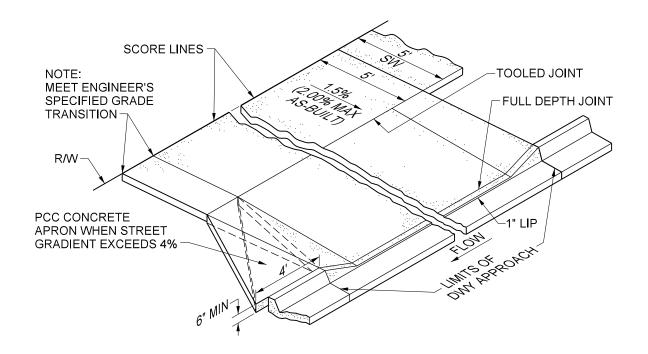
*CROSS SLOPE OF SIDEWALK SHALL BE 1.5% (2.00% MAX AS-BUILT)

NOTES:

- 1. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD.
- 2. 20' OF FULL-HEIGHT CURB REQUIRED BETWEEN DRIVEWAYS WITHIN ANY ONE PROPERTY FRONTAGE.
- 3. ROOT BARRIERS ARE REQUIRED FOR ANY TREES PLANTED WITHIN THE STREET RIGHT OF WAY.
- 4. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 5. 8" CURB FACE NOT ALLOWED.
- 6. APPROACHES SHALL HAVE 1 1/2" DEEP 3/16" WIDE TOOLED JOINT AT CENTER OF APPROACH AND AS SHOWN HEREON. ALL OTHER SCORE LINES SHALL BE 10'-0" MAX OC.
- 7. RELATIVE COMPACTION OF SUBGRADE UNDER DRIVEWAY SHALL BE 95% MIN.

SEE STANDARD No. 207 FOR RESIDENTIAL DRIVEWAY WITH SIDEWALK AT CURB

NOT TO SCALE PROFESSIONAL SIONATIONSTER PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTER ALAN ENGINEER LOUR RESIDENTIAL DRIVEWAY 11/30/22 DIRECTOR OF TRANSPORTATION DATE APPROACH WITH C48048 MARK LANCASTER, P.E. SIDEWALK AT R/W REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN CIVI **STANDARD No. 213 (1 OF 2)**



ISOMETRIC VIEW

NOT TO SCALE FOR NOTES SEE SHEET 1

PREPARED UNDER THE SUPERVISION OF:

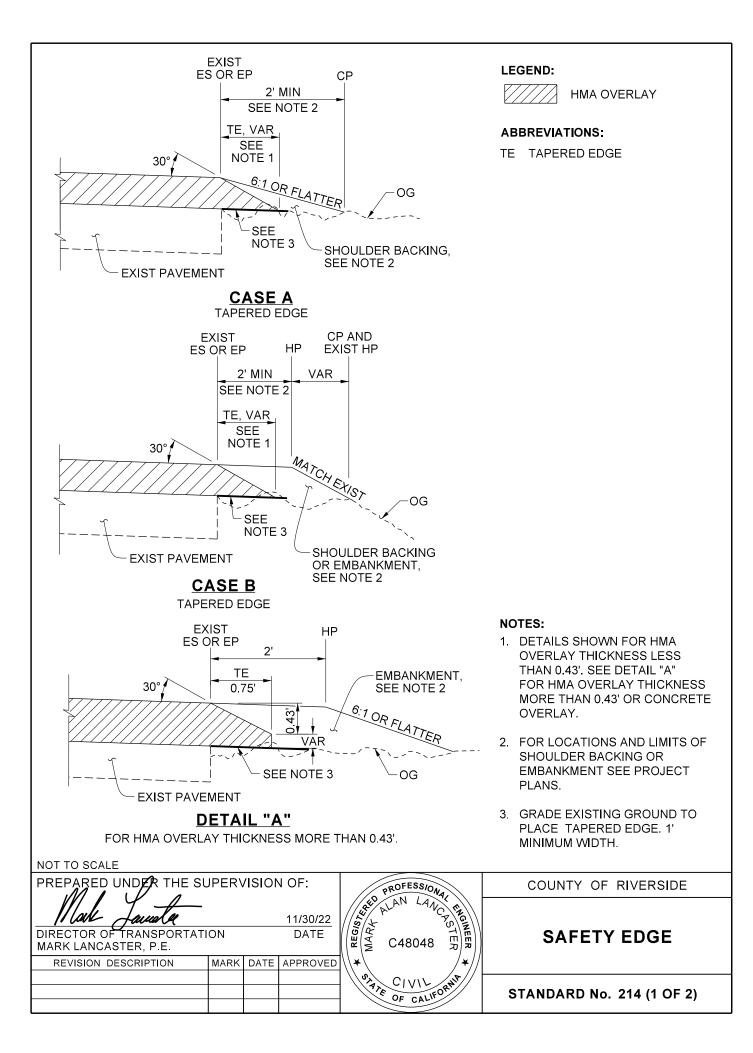
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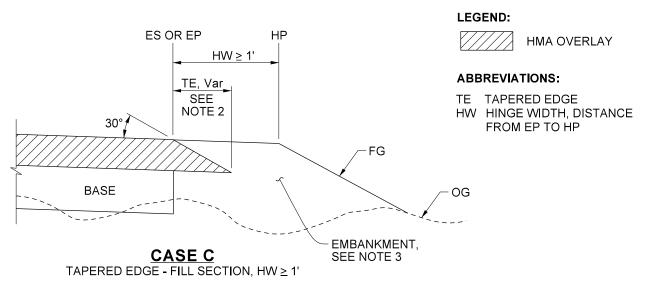


COUNTY OF RIVERSIDE

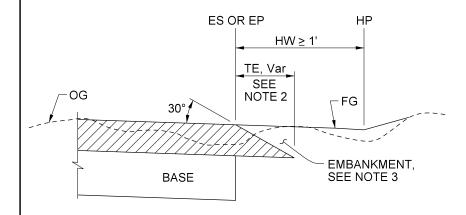
RESIDENTIAL DRIVEWAY APPROACH WITH SIDEWALK AT R/W

STANDARD No. 213 (2 OF 2)





FILL SECTION



CASE DTAPERED EDGE - FILL SECTION, HW ≥ 1'

CUT SECTION

NOTES:

- DETAILS SHOWN FOR HMA OVERLAY THICKNESS LESS THAN 0.43'. SEE DETAIL "A" FOR HMA OVERLAY THICKNESS MORE THAN 0.43' OR CONCRETE OVERLAY.
- 2. FOR LOCATIONS AND LIMITS OF SHOULDER BACKING OR EMBANKMENT SEE PROJECT PLANS.

PREPARED UNDER THE SUPERVISION OF:

ORDINARY

DIRECTOR OF TRANSPORTATION

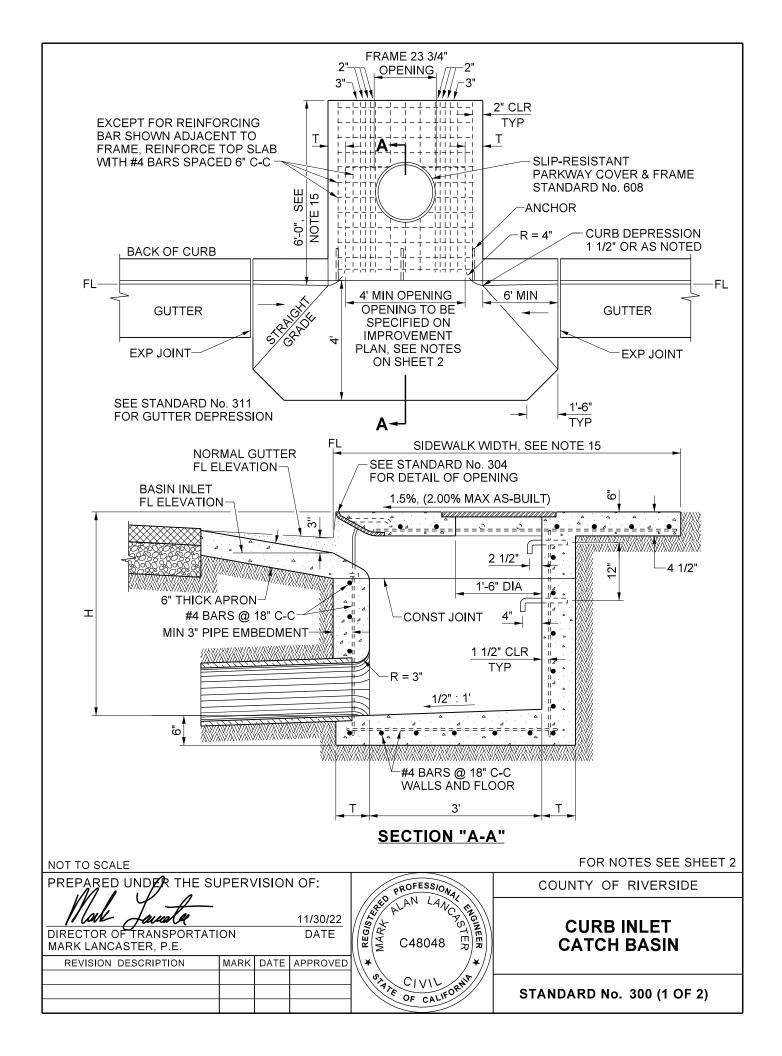
MARK LANCASTER, P.E.

REVISION DESCRIPTION

MARK DATE APPROVED

OF CALIFORNIA

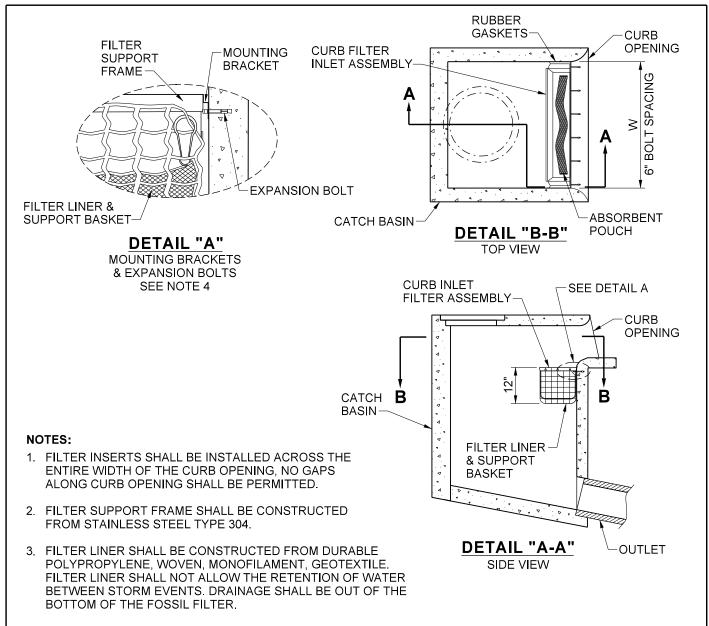
STANDARD No. 214 (2 of 2)



- 1. CONNECTION PIPES MAY BE PLACED ANY POSITION AROUND THE WALLS, PROVIDED THEY POINT IN THE PROPER DIRECTION AND THE POSITION IS OTHERWISE CONSISTENT WITH THE IMPROVEMENT PLAN.
- 2. CURVATURE OF THE LIP AND SIDEWALLS AT GUTTER OPENING SHALL BE FORMED BY CURVED FORMS AND SHALL NOT BE MADE BY PLASTERING.
- 3. DIMENSIONS:
 - T = 6" IF H IS 8 FEET OR LESS.
 - T = 8" IF H IS GREATER THAN 8 FEET AND LESS THAN 20 FEET.
 - H = 3 FEET 6 INCHES, UNLESS OTHERWISE SPECIFIED.
- 4. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWELLED FINISH.
- 5. MANHOLE SHALL BE PLACED AS SHOWN ON STANDARD No. 300, UNLESS NOTED DIFFERENTLY ON IMPROVEMENT PLANS.
- 6. OUTLET PIPE SHALL BE TRIMMED TO THE FINAL SHAPE AND LENGTH BEFORE CONCRETE IS POURED.
- 7. OPENING SHALL BE 4'-0" MINIMUM UNLESS OTHERWISE SPECIFIED.
- 8. REINFORCING STEEL SHALL BE NO. 4 ROUND DEFORMED BARS AT 6" CENTERS IN TOP SLAB, AT 18" CENTERS IN SIDES AND FLOOR OF THE BOX.
- 9. 3/4 INCH PLAIN ROUND HOT-DIP GALVANIZED STEEL STEPS 16" WIDE (ALHAMBRA FDY. A-3325 OR EQUAL) ARE REQUIRED AS FOLLOWS:
 - a. IF H IS 3.5 FEET OR LESS, NO STEPS ARE REQUIRED.
 - b. IF H IS MORE THAN 3.5 FEET, AND NOT MORE THAN 5 FEET, INSTALL 1 STEP 16" ABOVE FLOOR OF THE BASIN
 - c. IF H IS MORE THAN 5 FEET, INSTALL STEPS 12 INCHES APART, WITH THE TOP STEP 6 INCHES BELOW THE SURFACE OF THE BASIN.
 - d. ALL STEPS SHALL BE 4 INCHES FROM THE WALL, EXCEPT THE TOP STEP, WHICH SHALL BE 2 1/2 INCHES (CLEAR) FROM THE WALL, AND ANCHORED NOT LESS THAN 5 INCHES INTO THE WALL OF THE BASIN.
- 10. SURFACE OF ALL EXPOSED CONCRETE IN BASIN SHALL CONFORM IN SLOPE, GRADE, COLOR, FINISH AND SCORING TO EXISTING OR PROPOSED CURB AND WALL ADJACENT TO THE BASIN.
- 11. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD WHEN THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF A PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH A SIDEWALK. THE TOP OF THE BASIN SHALL BE POURED MONOLITHIC WITH THE SIDEWALK, USING CONCRETE IN THE SIDEWALK WITH MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD AND THE TOP OF THE CATCH BASIN PER SIDEWALK STANDARDS.
- 12. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 13. CATCH BASINS AND LOCAL DEPRESSIONS MAY NOT BE PLACED WITHIN PEDESTRIAN STREET CROSSINGS.
- 14. CATCH BASIN CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.
- 15. TOP OF CATCH BASIN TO BE POURED MONOLITHIC WITH SIDEWALK.

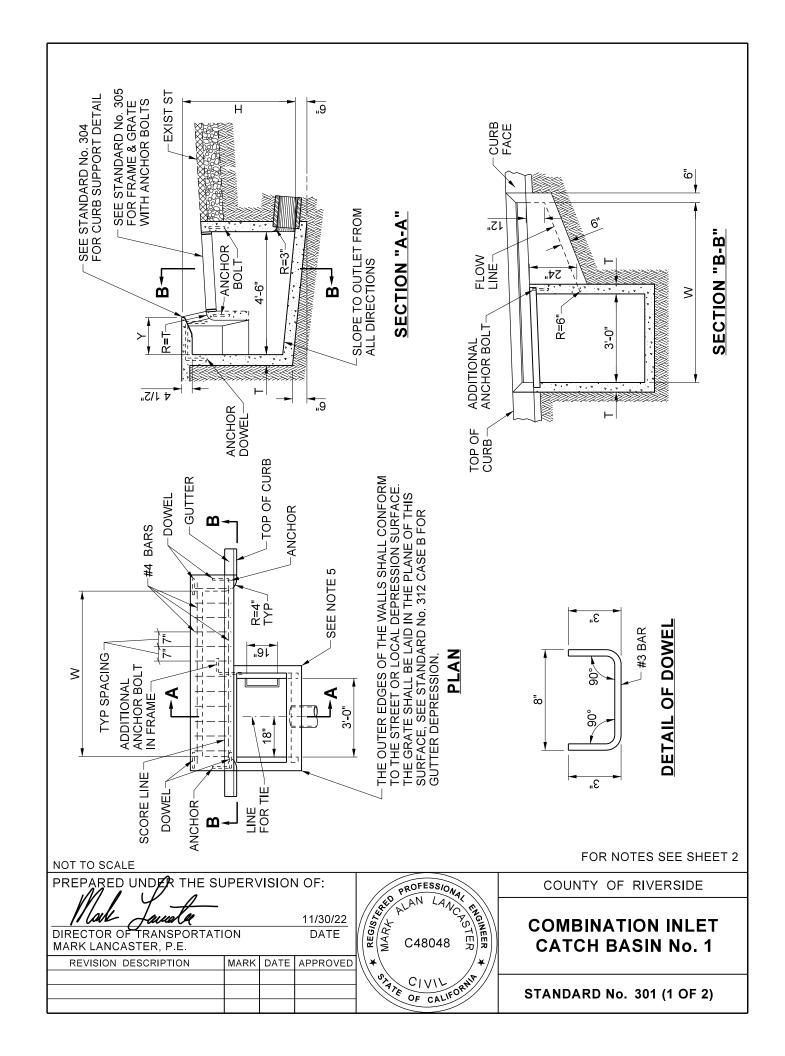
NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE REGISTERE MANARY CONTROL ENGINEER lack PS.) 11/30/22 DIRECTOR OF TRANSPORTATION **CURB INLET** DATE C48048 **CATCH BASIN** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNIA **STANDARD No. 300 (2 OF 2)**



- 4. FILTER INSERT SHALL BE ATTACHED TO THE CATCH BASIN WITH STAINLESS STEEL EXPANSION ANCHOR BOLTS & WASHERS (3/8" x 2-1/2" MINIMUM LENGTH).
- 5. FILTER INSERTS SHALL BE AVAILABLE IN STANDARD LENGTHS OF 24", 30", 35", 42" & 48" AND MAY BE INSTALLED IN VARIOUS LENGTH COMBINATIONS (END TO END) TO FIT LENGTH OF NOTED CATCH BASIN.
- 6. FILTER INSERTS AND FILTER MEDIUM POUCHES MUST BE MAINTAINED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- 7. FILTER INSERTS SHALL BE DESIGNED WITH A DEBRIS TRAP FOR THE RETENTION OF FLOATABLES AND COLLECTED SEDIMENTS.
- 8. FILTER INSERTS SHALL BE SUPPLIED WITH "CLIP-IN" FILTER POUCHES UTILIZING FILTER MEDIUM FOR THE COLLECTION AND RETENTION OF PETROLEUM HYDROCARBONS (OILS & GREASES).

NOT TO SCALE		
PREPARED UNDER THE SUPERVISION OF:	PROFESS/ONA	COUNTY OF RIVERSIDE
DIRECTOR OF TRANSPORTATION DATE MARK LANCASTER, P.E.	MAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	FOSSIL FILTER
REVISION DESCRIPTION MARK DATE APPROVED		
	OF CALIFORNIA	STANDARD No. 300A



1. DIMENSIONS UNLESS OTHERWISE SPECIFIED*

- 2. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.
- 3. THE REINFORCING STEEL SHALL BE NUMBER 4 DEFORMED BARS. CLEARANCE SHALL BE 1 1/2" FROM THE BOTTOM OF THE SLAB.
- 4. THE SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM TO SLOPE, GRADE, COLOR, FINISH, AND SCORE IN THE EXISTING OR PROPOSED CURB AND WALK ADJACENT TO THE BASIN. THE BASIN FLOOR SHALL BE GIVEN A TIGHT WOOD FLOAT FINISH. CURVATURE OF THE LIP AND SIDEWALLS AT THE GUTTER OPENING SHALL NOT BE MADE BY PLASTERING. THE OUTLET PIPE SHALL BE TRIMMED TO FINAL SHAPE AND LENGTH BEFORE THE CONCRETE IS POURED.
- 5. 3/4 INCH PLAIN ROUND HOT-DIP GALVANIZED STEEL STEPS 16" WIDE (ALHAMBRA FDY. A-3325 OR EQUAL) ARE REQUIRED AS FOLLOWS:
 - a. IF H IS 3.5 FEET OR LESS. NO STEPS ARE REQUIRED.
 - b. IF H IS MORE THAN 3.5 FEET, AND NOT MORE THAN 5 FEET, INSTALL 1 STEP 16" ABOVE FLOOR OF THE BASIN
 - c. IF H IS MORE THAN 5 FEET, INSTALL STEPS 12 INCHES APART, WITH THE TOP STEP 6 INCHES BELOW THE SURFACE OF THE BASIN.
 - d. ALL STEPS SHALL BE 4 INCHES FROM THE WALL, EXCEPT THE TOP STEP, WHICH SHALL BE 2 1/2 INCHES (CLEAR) FROM THE WALL, AND ANCHORED NOT LESS THAN 5 INCHES INTO THE WALL OF THE BASIN.
- 6. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 7. CATCH BASINS, GRATES AND LOCAL DEPRESSIONS MAY NOT BE PLACED WITHIN PEDESTRIAN STREET CROSSINGS. BICYCLE FRIENDLY GRATES SHALL BE USED IN BIKE LANES AND WITHIN ROADBED.

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

NOT TO SCALE

REVISION DESCRIPTION MARK DATE APPROVED



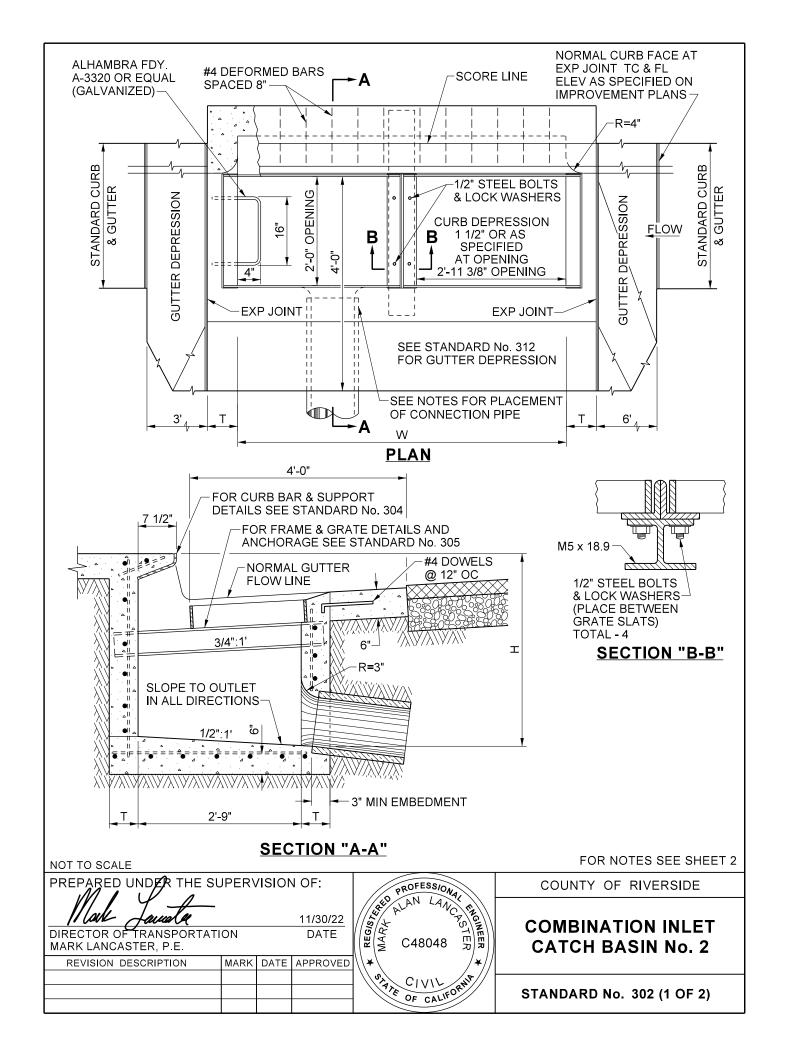
11/30/22

DATE

COUNTY OF RIVERSIDE

COMBINATION INLET CATCH BASIN No. 1

STANDARD No. 301 (2 OF 2)



- BASIN SHALL HAVE ONE GRATE UNLESS OTHERWISE SPECIFIED ON IMPROVEMENT PLANS.
- 2. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD. WHEN THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF A PROPOSED SIDEWALK, OR IS CONTIGUOUS TO SUCH A SIDEWALK, THE TOP OF THE BASIN SHALL BE POURED MONOLITHIC WITH THE SIDEWALK, USING CONCRETE IN THE SIDEWALK WITH MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD. THE TOP OF THE CATCH BASIN SHALL BE FINISHED PER SIDEWALK STANDARDS.
- CONNECTION PIPES MAY BE PLACED IN ANY POSITION AROUND THE WALLS, PROVIDED THEY POINT IN THE PROPER DIRECTION AND THE POSITION IS OTHERWISE CONSISTENT WITH THE IMPROVEMENT PLAN.
- 4. CURVATURE OF THE END-WALLS AT CURB OPENING SHALL BE FORMED BY CURVED FORMS AND SHALL NOT BE MADE BY PLASTERING.
- DIMENSIONS:

GRATE SHALL BE PARALLEL TO PLANE OF GUTTER SLOPE 3/4" TO 1'-0".

T = 6 INCHES IF H IS 8 FEET OR LESS.

T = 8 INCHES IF H IS GREATER THAN 8 FEET AND LESS THAN 20 FEET.

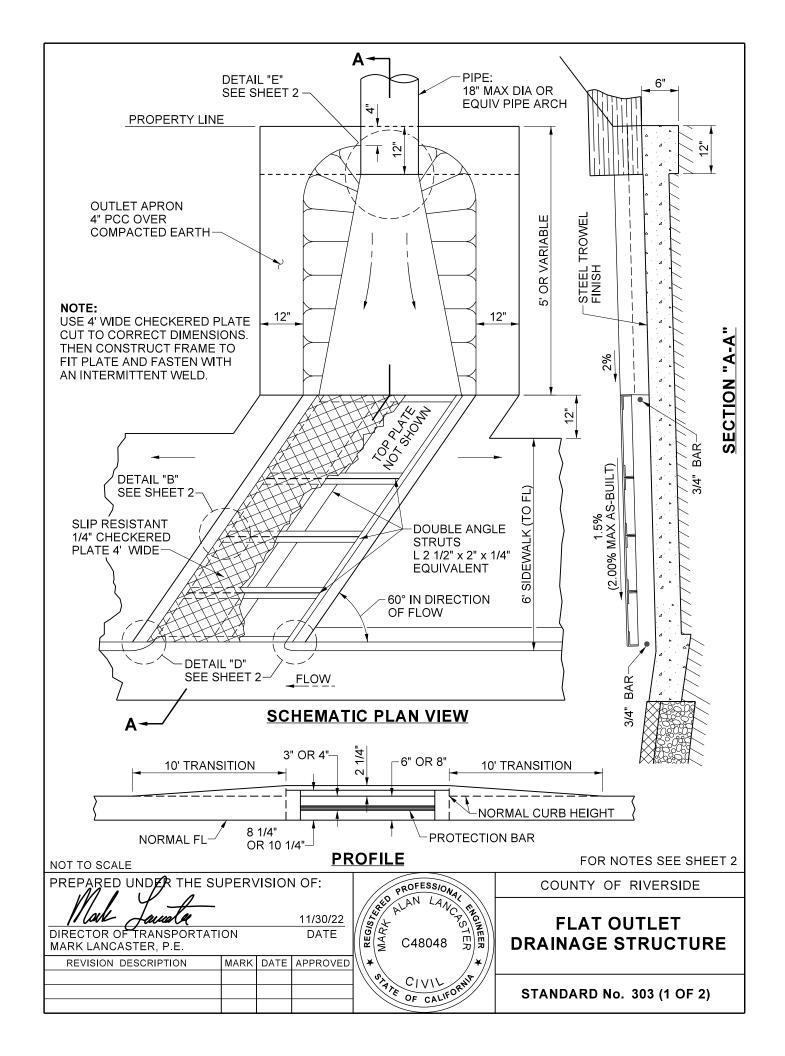
H = 3 FEET 6 INCHES, UNLESS OTHERWISE SPECIFIED ON IMPROVEMENT PLANS.

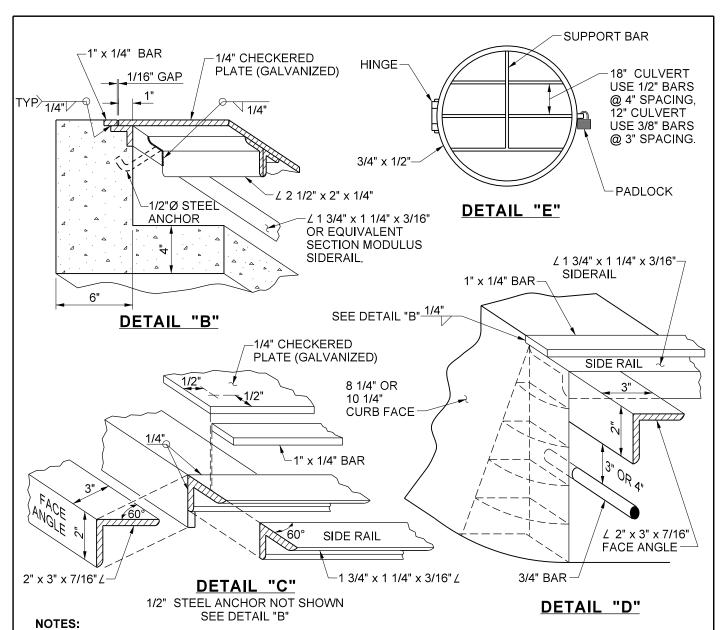
W = 2 FEET 11 3/8 INCHES FOR ONE GRATE. ADD 3 FEET 5 3/8 INCHES FOR EACH ADDITIONAL GRATE.

- 6. EXPOSED SURFACES OF THE CATCH BASIN SHALL CONFORM IN SLOPE, GRADE, COLOR, FINISH AND SCORING TO EXISTING IMPROVEMENTS ADJACENT TO THE BASIN. WHERE NO SIDEWALK EXISTS, THE TOP SHALL BE FINISHED TO CONFORM TO STANDARD SIDEWALK SLOPE AND FINISH. WHERE NO CURB EXISTS, THE BATTER OF EXPOSED END WALLS ABOVE THE STREET SURFACE SHALL CONFORM TO BATTER FOR STANDARD CURB.
- 7. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWELLED FINISH.
- 8. OUTLET PIPE SHALL BE TRIMMED TO THE FINAL SHAPE AND LENGTH BEFORE CONCRETE IS POURED.
- 9. REINFORCING STEEL SHALL BE #4 DEFORMED BARS. CLEARANCE SHALL BE 1 1/2 INCHES FROM INSIDE OF BOX. SPACING IS AS SHOWN IN TOP SLAB AND AT 18 INCH CENTERS IN SIDES OF BOX.
- 10. SLOPE OF FLOOR PARALLEL WITH CURB SHALL BE 1 IN 12 UNLESS OTHERWISE SPECIFIED. SLOPE FLOOR FROM ALL DIRECTIONS TO THE OUTLET.
- 11. STEPS: 3/4 INCH PLAIN ROUND GALVANIZED STEEL STEPS (ALHAMBRA FDY. A-3325 OR EQUAL) ARE REQUIRED AS FOLLOWS:
 - a. IF H IS 3.5 FEET OR LESS, NO STEPS ARE REQUIRED.
 - b. IF H IS MORE THAN 3.5 FEET, AND NOT MORE THAN 5.0 FEET, INSTALL ONE STEP 16" ABOVE FLOOR OF BASIN.
 - c. IF H IS MORE THAN 5.0 FEET, INSTALL STEPS 12 INCHES APART, WITH THE TOP STEP 6" BELOW THE TOP OF GRATE.
 - d. ALL STEPS SHALL BE 4 INCHES CLEAR FROM THE WALL EXCEPT THE TOP STEP, WHICH SHALL BE 2 1/2 INCHES (CLEAR) FROM THE WALL AND ANCHORED NOT LESS THAN 5 INCHES IN WALL OF BASIN.
- 12. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 13. GRATE SHALL BE HOT DIPPED GALVANIZED.
- 14. CATCH BASINS, GRATES AND LOCAL DEPRESSIONS MAY NOT BE PLACED WITHIN PEDESTRIAN STREET CROSSINGS. BICYCLE FRIENDLY GRATES SHALL BE USED IN BIKE LANES AND WITHIN ROADBED.

NOT TO SCALE

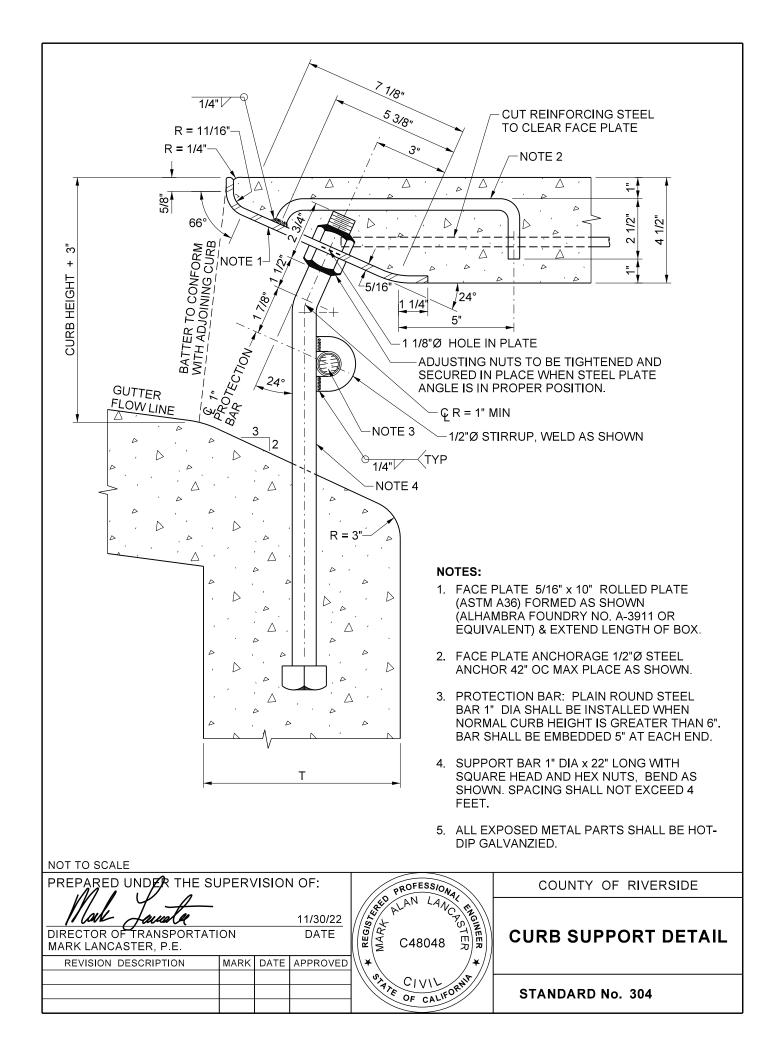
PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE REGISTERS MARK RED PRU. LANCE ENGINEER lack 11/30/22 DIRECTOR OF TRANSPORTATION COMBINATION INLET DATE C48048 **CATCH BASIN No. 2** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNIA **STANDARD No. 302 (2 OF 2)**

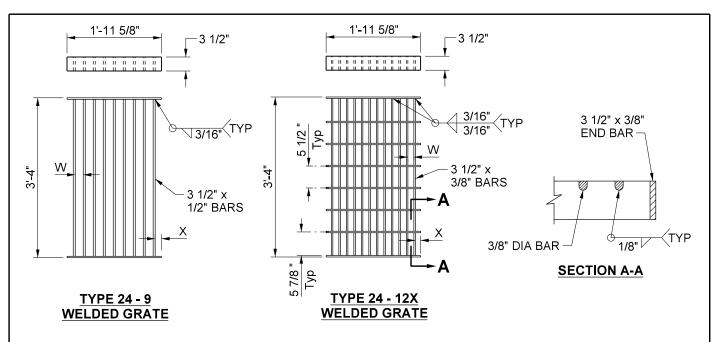




- 1. FRAME AND GRATE SHALL BE CONSTRUCTED TO STANDARD SPECIFICATIONS OR OF EQUIVALENT STRUCTURAL STRENGTH AND WELDED TOGETHER WITH A 1/4" INTERMITTENT WELD AT ALL BREAKS, SEAMS, SECTIONS, JOINTS, ETC.
- 2. THE 1/4" CHECKERED PLATE SHALL BE FASTENED TO THE FRAME WITH AN INTERMITTENT WELD.
- 3. GRATE SHALL BE CONSTRUCTED TO STANDARD SPECIFICATIONS, WELDED AT ALL BREAKS, SECTIONS, ETC., HINGED TO DRAINAGE PIPE, AND SECURED WITH PADLOCK. GRATE NOT REQUIRED FOR CULVERTS SMALLER THAN 12".
- 4. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 5. ALL METAL SHALL BE HOT DIPPED GALVANIZED.
- 6. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.

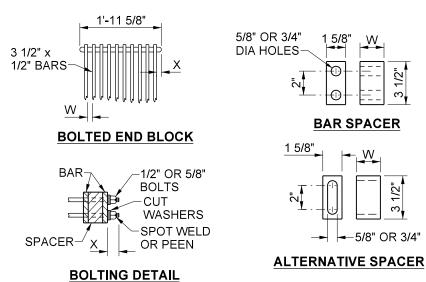
NOT TO SCALE PROFESSIONAL PREPARED UNDER THE SUPERVISION OF: REGISTER D COUNTY OF RIVERSIDE PRUI LANCY ENGINEER coll 11/30/22 FLAT OUTLET DRAINAGE DIRECTOR OF TRANSPORTATION DATE C48048 STRUCTURE MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN **STANDARD No. 303 (2 OF 2)**





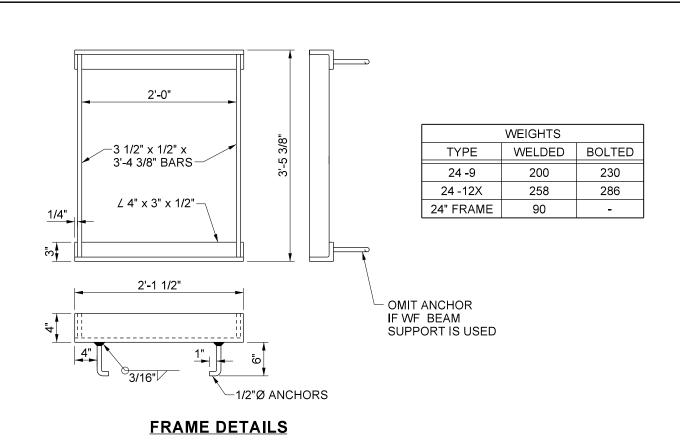
GRATE DETAILS

(SEE TABLE BELOW)



ALTERNATIVE BOLTED GRATE

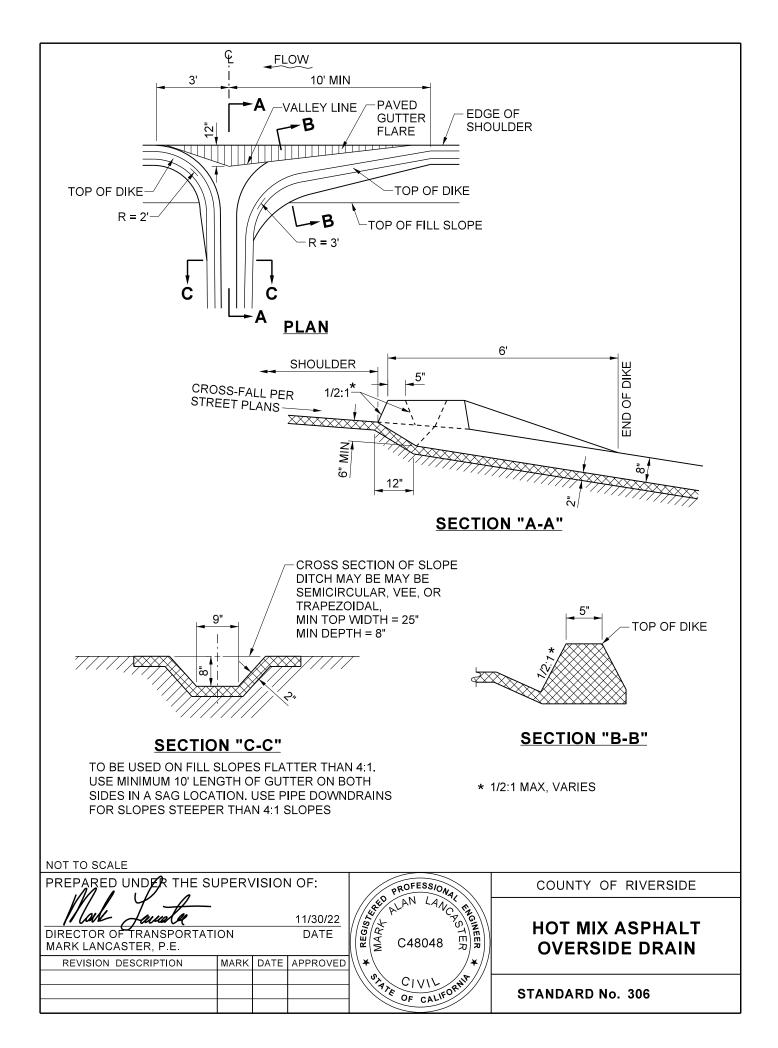
TYPE	NO. BARS	" W "	" X "	GRATE OPEN AREA	USAGE
24 - 9	9	2"	1 9/16"	5.21 SqFt	USE IN LOCATIONS OFF THE ROADBED
24 -12X	12	1 1/2"	1 5/16"	4.91 SqFt	USE WITHIN THE ROADBED

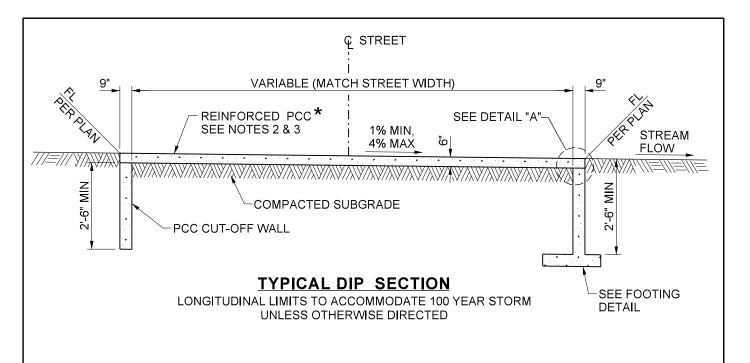


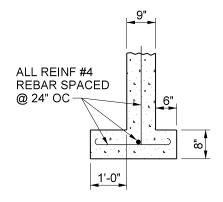
NOT TO SCALE

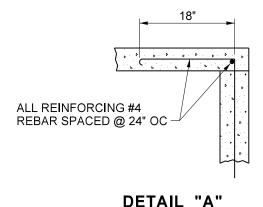
- 1. GRATE TYPE NUMBER REFERS TO WIDTH OF GRATE IN INCHES AND NUMBER OF BARS RESPECTIVELY.
- 2. CONTRACTOR HAS THE OPTION OF USING WELDED OR BOLTED GRATES.
- 3. ROUNDED TOP OF BARS OPTIONAL ON ALL GRATES.
- 4. GRATE SHALL BE PLACED SO THAT BARS ARE PARALLEL TO DIRECTION OF PRINCIPAL SURFACE FLOW.
- 5. GRATE AND FRAME SHALL BE HOT-DIP GALVANIZED.

PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER COUNTY OF RIVERSIDE ENGINEER coll 11/30/22 **GRATE AND** DIRECTOR OF TRANSPORTATION DATE C48048 FRAME DETAIL MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN CIVI **STANDARD No. 305 (2 OF 2)**









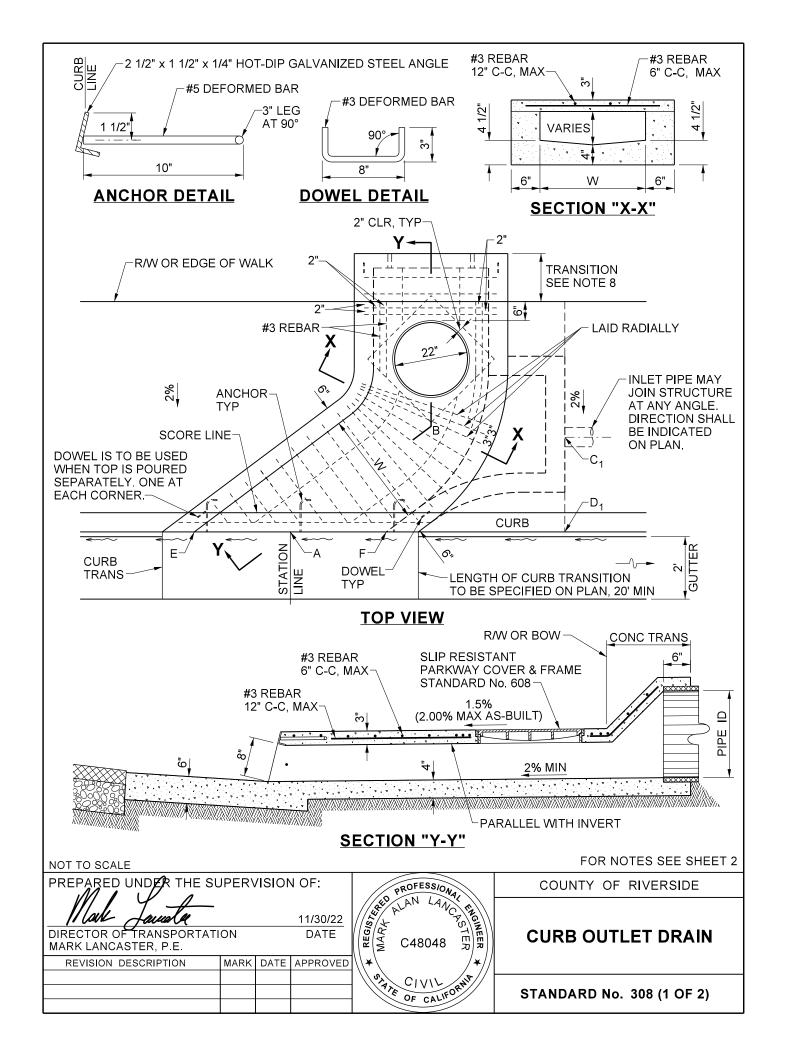
FOOTING DETAIL

FOOTING AND DEPTH OF CUT-OFF WALL TO BE DETERMINED BY SOIL INVESTIGATION.

NOTES:

- 1. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 2. REINFORCING FOR PCC PAVEMENT TO CONSIST OF 6" x 6" x 10 GAUGE WIRE MESH.
- 3. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.

NOT TO SCALE PROFESU. ALAN LANCASTER PREPARED UNDER THE SUPERVISION OF: REGISTER COUNTY OF RIVERSIDE ENGINEER lack 11/30/22 DIRECTOR OF TRANSPORTATION DATE PCC DIP SECTION MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED CIVI OF CALIFORN STANDARD No. 307



- 1. WHEN STRUCTURE IS TO BE CONSTRUCTED WITHIN THE LIMITS OF A PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH SIDEWALK, THE TOP OF THE STRUCTURE SHALL BE POURED MONOLITHIC WITH THE SIDEWALK, USING THE SAME CLASS OF CONCRETE AS IN THE SIDEWALK.
- 2. DIMENSIONS SHALL BE AS FOLLOWS UNLESS OTHERWISE SPECIFIED ON THE PLAN:

A - B = 5' C_1 - D_1 = 3' E - F = 5'

W = 3'

- 3. FLOOR OF STRUCTURE SHALL BE GIVEN A STEEL-TROWELED FINISH AND CONSTRUCTED ON A STRAIGHT GRADE FROM BACK OF STRUCTURE TO GUTTER FLOW-LINE AT POINT A. THE V-SECTION SPECIFIED FOR INVERT SHALL EXTEND FROM PIPE OUTLET TO A POINT 3' FROM THE GUTTER, FROM WHICH POINT THE INVERT SHALL BE WARPED TO JOIN THE GUTTER FLOW-LINE AT THE STRUCTURE.
- 4. REINFORCING STEEL BARS SHALL BE 1" FROM BOTTOM OF THE SLAB.
- 5. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO THE STRUCTURE.
- 6. CORRUGATED METAL FORMS SHALL NOT BE USED FOR SUPPORTING THE TOP SLAB.
- 7. TOP OF STRUCTURE SHALL SLOPE 2% TOWARD CURB EXCEPT WHEN OTHERWISE SHOWN ON PLAN OR TO FIT EXISTING SIDEWALK.
- 8. TRANSITION FROM PIPE TO STRUCTURE, IF REQUIRED, TO BE IN BACK OF SIDEWALK. DIMENSIONS OF TRANSITION SHALL BE SPECIFIED ON THE PLAN.
- 9. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 10. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.

11/30/22

DATE

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION

MARK LANCASTER, P.E.

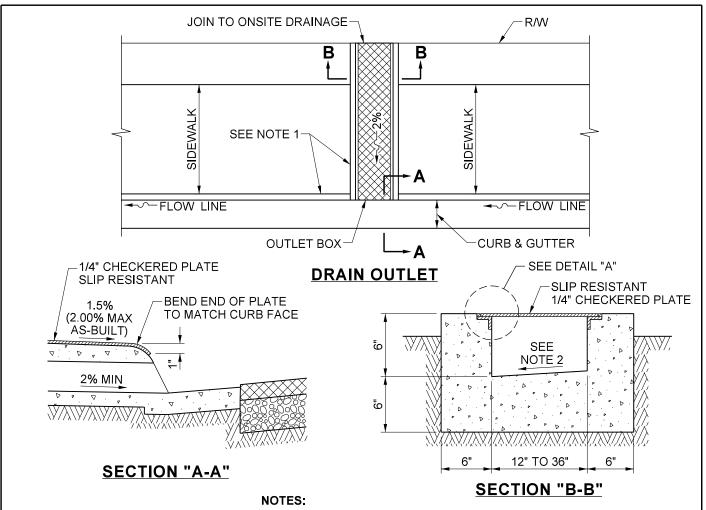
REVISION DESCRIPTION MARK DATE APPROVED

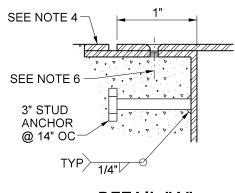


COUNTY OF RIVERSIDE

CURB OUTLET DRAIN

STANDARD No. 308 (2 OF 2)

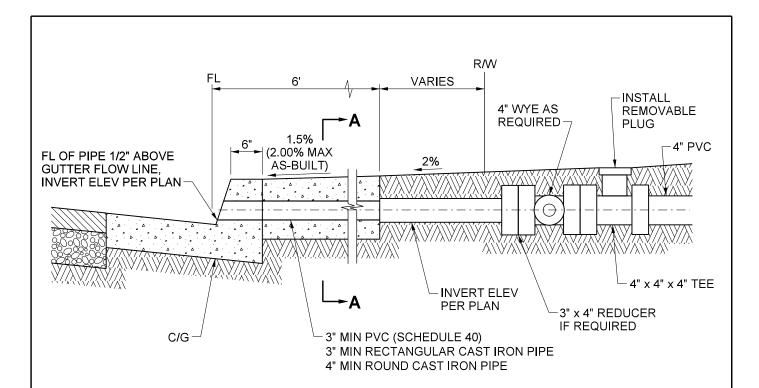




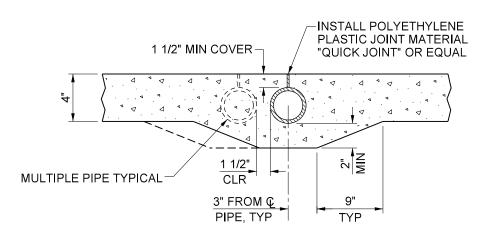
DETAIL "A"

- 1. UNDER SIDEWALK DRAIN TO BE CONSTRUCTED PERPENDICULAR (90^)
 TO THE CURB ALIGNMENT. VARIATIONS FROM 90° REQUIRE THE APPROVAL
 OF THE DIRECTOR OF TRANSPORTATION.
- 2. SLOPE TO DRAIN TO ONE SIDE.
- ALL EXPOSED METAL PARTS TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
- 1 1/2" x 1 1/2" x 1/4" "L" FRAME WITH 3/8" x 1/4" STEEL STRIP WELDED TO FRAME.
- CHECKERED PLATE SHALL BE SLIP RESISTANT HOT-DIP GALVANIZED STEEL, MAXIMUM WIDTH 36".
- 6. FASTEN WITH 1/4" COARSE-THREAD COUNTERSINK STAINLESS STEEL SCREWS AT 12" OC.
- 7. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 8. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL SSIL COUNTY OF RIVERSIDE REGISTER ALAN ENGINEER **UNDER SIDEWALK** LOUR 11/30/22 DIRECTOR OF TRANSPORTATION DATE DRAIN C48048 MARK LANCASTER, P.E. **CAST IN PLACE** REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN CIVI STANDARD No. 309

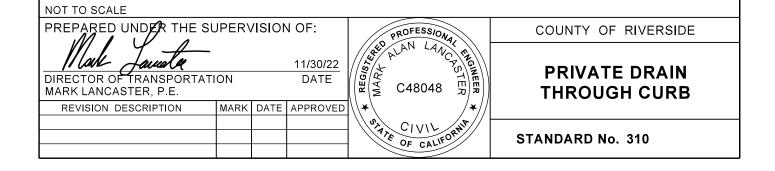


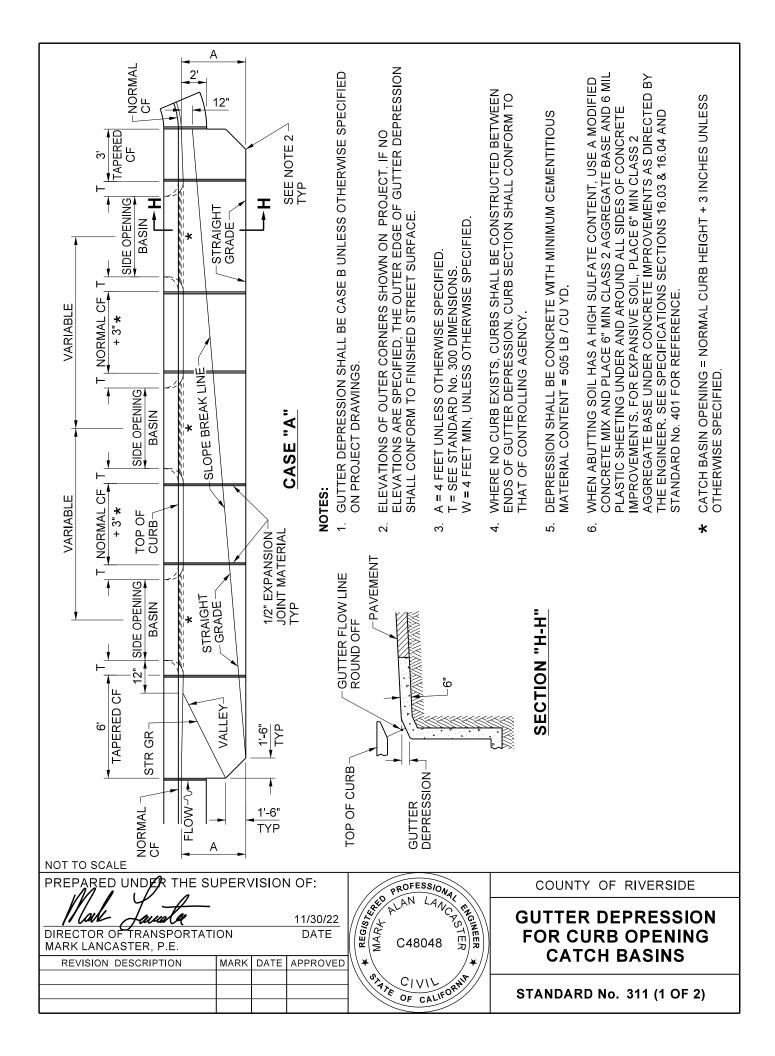
ELEVATION

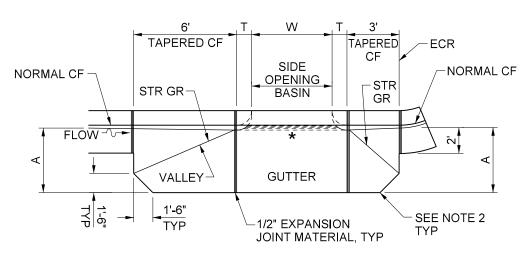


SECTION "A-A"

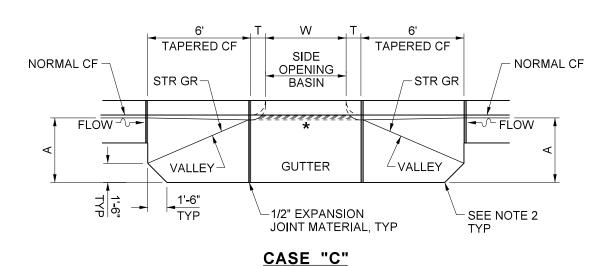
CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD



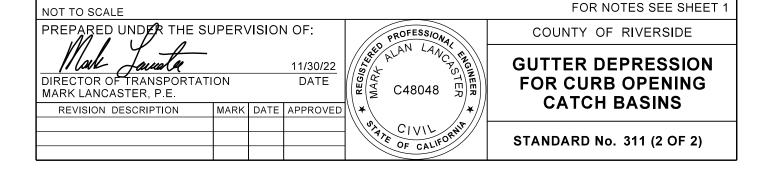


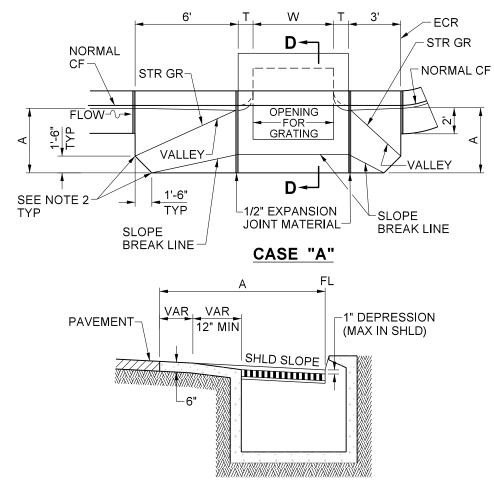


CASE "B"
(CONTINUOUS GRADE)



(SAG)

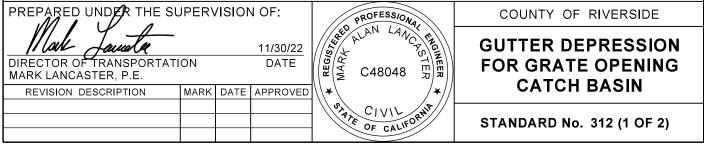


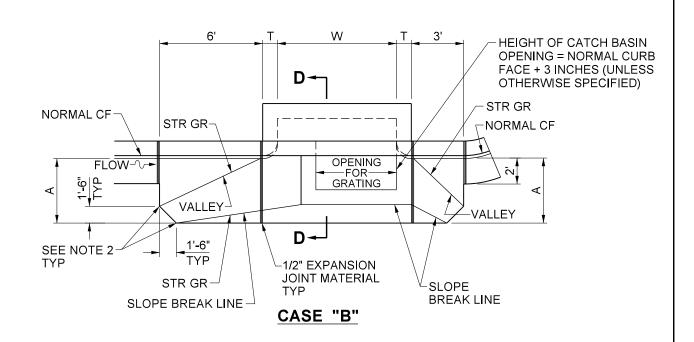


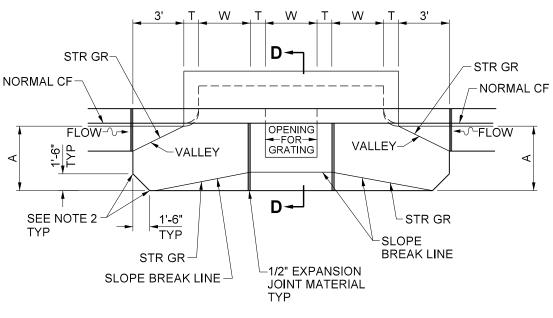
SECTION "D-D"

- 1. GUTTER DEPRESSION SHALL BE:
 - (A) CASE "A" SEE STANDARD No. 302 COMBINATION CATCH BASIN, UNLESS OTHERWISE SPECIFIED. (B) CASE "B" SEE STANDARD No. 301 COMBINATION INLET CATCH BASIN, UNLESS OTHERWISE SPECIFIED.
- 2. ELEVATIONS AT OUTER CORNERS SHOWN ON THE PROJECT DRAWINGS. IF NO ELEVATIONS ARE SPECIFIED THE OUTER EDGE OF THE GUTTER DEPRESSION SHALL CONFORM TO THE FINISHED STREET SURFACE.
- 3. A = 4' UNLESS OTHERWISE SPECIFIED
 T = SEE STANDARD No. 302 DIMENSIONS
 W = SEE STANDARD No. 302 DIMENSIONS
- 4. WHERE NO CURB EXISTS, CURB SHALL BE CONSTRUCTED BETWEEN ENDS OF GUTTER DEPRESSION. CURB SECTION SHALL CONFORM TO THAT OF CONTROLLING AGENCY.
- 5. DEPRESSION SHALL BE CONCRETE WITH MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD.
- 6. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE

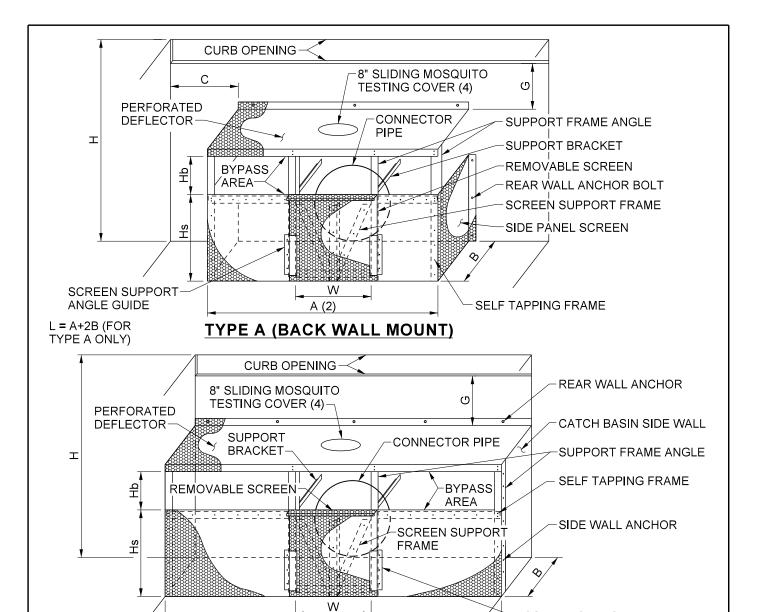






CASE "C"

FOR NOTES & SECTION D-D SEE SHEET 1 NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTERE MARK RED ENGINEER 1 LOUR **GUTTER DEPRESSION** 11/30/22 DIRECTOR OF TRANSPORTATION DATE FOR GRATE OPENING MARK LANCASTER, P.E. **CATCH BASIN** REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNI **STANDARD No. 312 (2 OF 2)**



TYPE B (SIDE WALL MOUNT)

DIMENSIONS:

NOT TO SCALE

SCREEN LENGTH (1)

REMOVABLE SCREEN WIDTH (2)

SCREEN HEIGHT (1)

SCREEN BYPASS HEIGHT (1)

MINIMUM WALL CLEARANCE (2)

MINIMUM INTERIOR SPACE (2)

DISTANCE BELOW GUTTER FL (1)

CATCH BASIN HEIGHT (5)

L

W (24" TO 36")

H

C (24" TO 36")

B = 10"

G H

NOTES:

- 1. SEE TABLES ON PAGES 10-13 FOR VALUES.
- 2. SEE FTCD GENERAL NOTES ON STANDARD 313-3.

SCREEN SUPPORT ANGLE GUIDE

- 3. SEE FTCD SCREEN TYPE AND LOCATIONS WITHIN CATCH BASINS ON STANDARD 313-4 TO 313-8.
- MOSQUITO TESTING COVER REQUIRED ONLY FOR STANDARD No. 301 AND 302 APPLICATIONS.
- 5. CB HEIGHT IS VERTICAL DISTANCE FROM TOP OF CURB TO OUTLET PIPE FLOW LINE.



COUNTY OF RIVERSIDE

FULL TRASH CAPTURE DEVICE (FTCD) -CONNECTOR PIPE SCREEN (CPS)

STANDARD No. 313 (1 OF 14)

FTCD SPECIFICATIONS

- 1. FULL TRASH CAPTURE DEVICE (FTCD) SHALL BE A UNITED STORM WATER, INC. CONNECTOR PIPE SCREEN (CPS) OR EQUIVALENT. EQUIVALENT SYSTEMS OR ALTERNATIVE DESIGNS SHALL BE ON THE STATE OF CALIFORNIA APPROVED TRASH CAPTURE DEVICE LIST AND REQUIRE APPROVAL OF THE TRANSPORTATION DEPARTMENT.
- 2. FTCD SHALL HAVE STRUCTURAL FRAME FOR STIFFNESS AND TO ENABLE BOLTING TO CATCH BASIN FLOOR AND WALL. FRAME MEMBERS SHALL BE FABRICATED FROM PERFORATED 14 GAUGE GRADE 304 STAINLESS STEEL HAVING 5 MM DIAMETER HOLES.
- 3. FTCD SCREENS SHALL BE FABRICATED FROM PERFORATED 14 GAUGE GRADE 304 STAINLESS STEEL HAVING 5 MM DIAMETER HOLES.
- 4. FTCD SHALL HAVE A PERFORATED DEFLECTOR SCREEN COVERING THE TOP OF THE FTCD TO PROHIBIT DEBRIS FROM FALLING BEHIND THE FRONT AND SIDE SCREENS. THE DEFLECTOR SHALL BE ABLE TO WITHSTAND A VERTICAL LOAD OF 10 LBS PER SQUARE FOOT.
- 5. FTCD FRAME AND SCREEN SHALL HAVE SUFFICIENT STRUCTURAL INTEGRITY TO WITHSTAND THE FORCE OF STANDING WATER IN THE CATCH BASIN ASSUMING THE SCREEN IS 100% CLOGGED.
- 6. FTCD SHALL BE FASTENED TO THE CATCH BASIN WALLS AND FLOOR WITH ANCHOR BOLTS. ANCHOR BOLTS SHALL BE SS-304, 3/8" DIAMETER AND 3" LENGTH, AND SHALL BE EPOXY SET INTO CATCH BASIN CONCRETE. IF REINFORCEMENT STEEL IS ENCOUNTERED DURING INSTALLATION, RELOCATE THE ANCHOR HOLE AND FILL VACANT HOLE WITH EPOXY. EPOXY SHALL BE ON THE CURRENT APPROVED LIST OF CHEMICAL ADHESIVES FOR USE IN CALTRANS CONTRACTS. ANCHOR BOLT SPACING TO BE 12" O.C. EXCEPT WHERE FRAME LENGTH WOULD RESULT IN LESS THAN 3 BOLTS PER FRAME MEMBER. IN THIS CASE FASTEN FRAME TO CATCH BASIN WALL USING 3 ANCHOR BOLTS.
- 7. THE SCREEN SHALL BE SECURED TO THE SUPPORT FRAME, BRACKETS AND SIDE PANEL USING #12 \times 0.5" SELF TAPPING SS-304 TECH SCREWS .
- 8. THE FTCD SHALL BE FABRICATED ON SITE TO BE FLUSH WITH THE INTERIOR SURFACES OF THE CATCH BASIN. THE MAXIMUM ALLOWABLE GAP BETWEEN THE FTCD AND THE CATCH BASIN SURFACES IS 5MM (0.197 INCHES).
- 9. FOR SCREEN SPANS (DIMENSION "A" FOR TYPE A OR DIMENSION "L" FOR TYPE B PER STANDARD 313-1) GREATER THAN 36" PROVIDE ADDITIONAL SUPPORT BRACKETS AND SUPPORT FRAME ANGLES AT 36" ON CENTER OR LESS. SEE STANDARD 313-1 TYPE B FOR TYPICAL SUPPORT BRACKET AND SUPPORT FRAME ANGLE CONFIGURATION.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED

PROFESSIONAL CHANGE OF CALIFORNIA OF CALIFOR

11/30/22

DATE

COUNTY OF RIVERSIDE

FTCD - CPS SPECIFICATIONS

STANDARD No. 313 (2 OF 14)

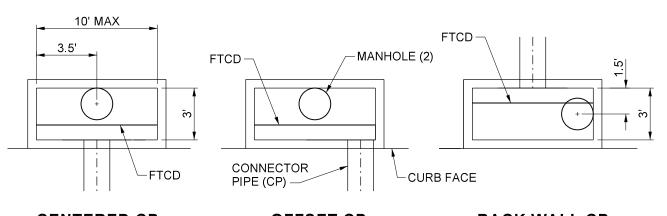
FTCD GENTERAL NOTES (NEW CONSTRUCTION)

- 1. FTCD SHALL CONFORM TO THE CONFIGURATIONS SHOWN IN STANDARD 313-4 THROUGH 313-8 AND SHALL BE SIZED ACCORDING TO THE SIZING TABLES SHOWN IN STANDARD 313-10 THROUGH 313-13.
- 2. THE REMOVABLE SCREEN WIDTH (W) SHALL EQUAL THE CONNECTOR PIPE DIAMETER OR 24", WHICEVER IS GREATER, BUT SHALL NOT EXCEED 36". WHERE DIMENSION "A" PER STANDARD 313-1 TYPE A (BACK WALL MOUNT) IS LESS THAN OR EQUAL TO 36", THE REMOVABLE SCREEN MAY EXTEND THE FULL WIDTH OF THE FTCD (W = A). IN THIS CASE SUPPORT BRACKETS AND THE ASSOCIATED SUPPORT FRAME ANGLES WILL BE OMITTED.
- 3. IF THE FTCD CANNOT PROVIDE A SIDE WALL CLEARANCE (C) OF 12", PROVIDE A SIDE WALL MOUNT. AN L-SHAPED FTCD WILL HAVE ONE SIDE WALL AND ONE BACK WALL MOUNT.
- 4. THE INTERIOR SPACE DIMENSION "B" PER DRAWING 313-1 TYPE A, SHALL BE AT LEAST 10" UNLESS OTHERWISE AUTHORIZED BY THE TRANSPORTATION DEPARTMENT.
- 5. POSITIVE DRAINAGE TO THE OUTLET PIPE IS REQUIRED FOR THE ENTIRE CATCH BASIN FLOOR.
- 6. THE CATCH BASIN SHALL INCLUDE MAINTENANCE GAUGE STENCILING ON THE INTERIOR WALL OPPOSITE THE FTCD THAT IDENTIFIES THE ACCUMULATED DEBRIS ELEVATION AT 40% AND 100% OF THE FTCD HEIGHT. SEE STANDARD 313-9 FOR STENCILING REQUIREMENTS.
- 7. TRANSPORTATION DEPARTMENT APPROVAL REQUIRED WHERE CONNECTOR PIPE SIZE > 42" DIAMETER.
- 8. CATCH BASINS (NEW OR EXISTING) WITH FOSSIL FILTERS (PER STANDARD 300A OR EQUIVALENT) SHALL REQUIRE SPECIAL CONSIDERATION FOR INCORPORATION OF THE FTCD. A MODIFIED FTCD DESIGN SHALL BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- 9. ENGINEER MAY PREPARE SITE SPECIFIC CPS DESIGN UTILIZING THE CPS FLOW CHART PER STANDARD 313-14 IN LIEU OF SIZING PER STANDARD 313-10 THROUGH 313-13.

FTCD RETROFIT NOTES

- 10. WHERE MANHOLE CONFIGURATIONS IN THE EXISTING CATCH BASIN DO NOT CONFORM WITH FTCD LOCATIONS SHOWN IN STANDARD 313-4 THROUGH 313-8, NEW MANHOLES OPENINGS SHALL BE INSTALLED TO CONFORM WITH THESE REQUIREMENTS. RETROFIT DESIGN DRAWINGS MUST BE APPROVED BY THE TRANSPORTATION DEPARTMENT.
- 11. IF ADEQUATE SPACE IS NOT AVAILABLE FOR RETROFIT OF EXISTING CATCH BASIN WITH FTCD, A MODIFIED FTCD DESIGN SHALL BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- 12. CATCH BASINS THAT DO NOT DRAIN TOWARD THE CONNECTOR PIPE SHALL BE MODIFIED TO DRAIN PROPERLY UTILIZING A POLYESTER POLYMER CONCRETE OVERLAY PRODUCT APPROVED BY THE TRANSPORTATION DEPARTMENT PRIOR TO INSTALLATION OF THE FTCD. THE BASIN FLOOR SHALL BE ROUGHENED TO THE SATISFACTION OF THE TRANSPORTATION DEPARTMENT PRIOR TO APPLICATION OF THE OVERLAY. SURFACE PREPARATION MUST PROVIDE FOR MINIMUM OVERLAY THICKNESS PER OVERLAY PRODUCT MANUFACTURER'S SPECIFICATIONS. PROPER DRAINAGE OF BASIN FLOOR SHALL BE ACHIEVED TO THE SATISFACTION OF THE TRANSPORTATION DEPARTMENT.

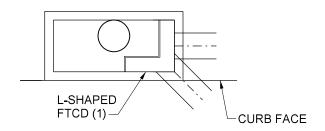
NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTERE MARK RE ENGINEER lack FTCD - CPS 11/30/22 DIRECTOR OF TRANSPORTATION DATE **GENERAL NOTES AND** MARK LANCASTER, P.E. **RETROFIT NOTES** REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN **STANDARD No. 313 (3 OF 14)**



CENTERED CP

OFFSET CP

BACK WALL CP



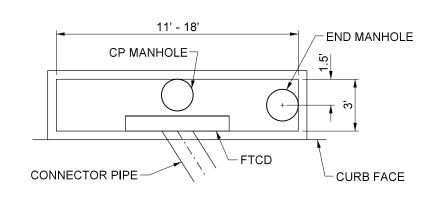
SIDE OR CORNER CP (1)(3)

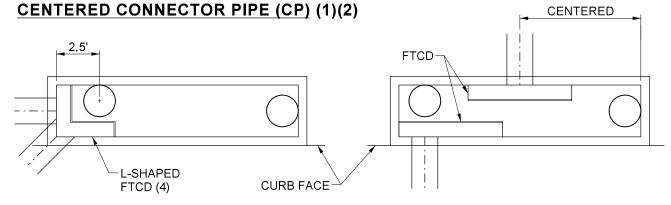
NOTES:

- (1) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING. A SUPPORT FRAME ANGLE SHALL BE PROVIDED IN THE CPS CORNER.
- (2) DETAIL VALID FOR CATCH BASIN WIDTHS LESS THAN OR EQUAL TO 10 FEET. MULTIPLE MANHOLES REQUIRED FOR CATCH BASIN WIDTHS GREATER THAN 10 FEET. SEE STANDARD NO. 313-5 AND 313-6.
- (3) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTER D FTCD - CPS SCREEN / lack 11/30/22 DIRECTOR OF TRANSPORTATION MANHOLE LOCATIONS FOR DATE 10' MAX WIDTH STANDARD NO. 300 MARK LANCASTER, P.E. **CURB INLET CATCH BASINS** REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN **STANDARD No. 313 (4 OF 14)**





SIDE OR CORNER CP (4)(5)

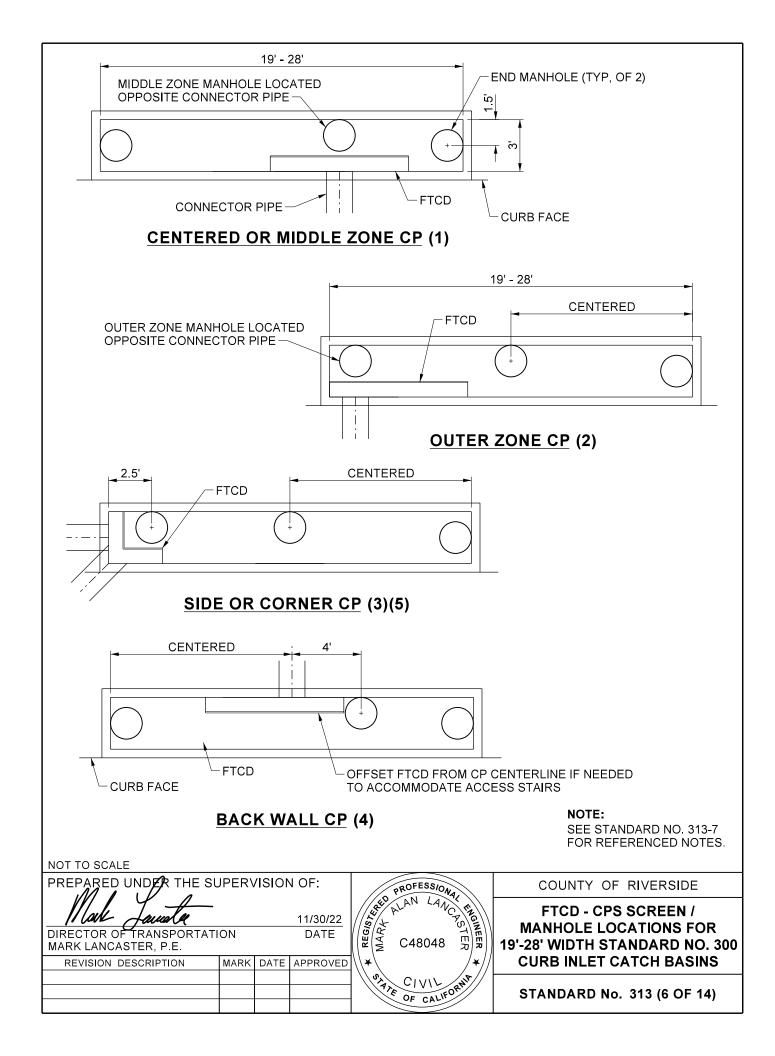
OFFSET OR BACK WALL CP (1)(3)

NOTES:

- (1) FOR CONNECTOR PIPE EXITING TOWARD STREET CENTERLINE, LOCATE CONNECTOR PIPE (CP) MANHOLE ALONG BACK WALL OPPOSITE OF CP CENTERLINE. LOCATE END MANHOLE AT EITHER END WHEN CP IS CENTERED IN CATCH BASIN. OR ON OPPOSITE SIDE OF CP WHEN CP IS ON EITHER SIDE OF CATCH BASIN CENTERLINE.
- (2) SHALLOW CATCH BASINS WITH A HEIGHT (H) LESS THAN 3.5' SHALL INCLUDE A THIRD MANHOLE ON THE OPPOSITE SIDE OF THE CONNECTOR PIPE FROM THAT SHOWN PLACED AGAINST THE END WALL.
- (3) CONNECTOR PIPE EXITING THROUGH BACK WALL OF CATCH BASIN MUST BE CENTERED IN CATCH BASIN UNLESS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- (4) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS, THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING. A SUPPORT FRAME ANGLE SHALL BE PROVIDED IN THE CPS CORNER.
- (5) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED, SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.

NOT TO SCALE





NOTES: (FOR STANDARD NO. 313-6)

- (1) FOR CONNECTOR PIPE EXITING TOWARD STREET CENTERLINE IN MIDDLE ZONE, LOCATE CONNECTOR PIPE (CP) MANHOLE ALONG BACK WALL OPPOSITE OF CP CENTERLINE. LOCATE END MANHOLES AT EITHER END OF CATCH BASIN AS SHOWN.
- (2) FOR CONNECTOR PIPE EXITING TOWARD STREET CENTERLINE IN OUTER ZONE, LOCATE OUTER ZONE MANHOLE ALONG BACK WALL OPPOSITE OF CP CENTERLINE. LOCATE ONE END MANHOLE ON THE OPPOSITE SIDE OF THE CB CENTERLINE FROM THE CP, AND ONE CENTERED MANHOLE ALONG THE CATCH BASIN BACK WALL.
- (3) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING. A SUPPORT FRAME ANGLE SHALL BE PROVIDED IN THE CPS CORNER.
- (4) CONNECTOR PIPE EXITING THROUGH BACK WALL OF CATCH BASIN MUST BE CENTERED IN CATCH BASIN UNLESS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- (5) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION

11/30/22 DATE

MARK LANCASTER, P.E.

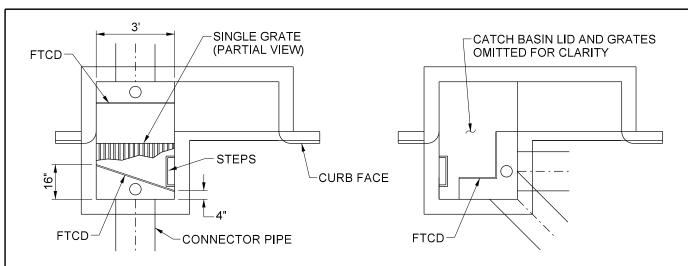
REVISION DESCRIPTION MARK DATE APPROVED



COUNTY OF RIVERSIDE

FTCD - CPS SCREEN /
MANHOLE LOCATIONS FOR
19'-28' WIDTH STANDARD NO. 300
CURB INLET CATCH BASINS

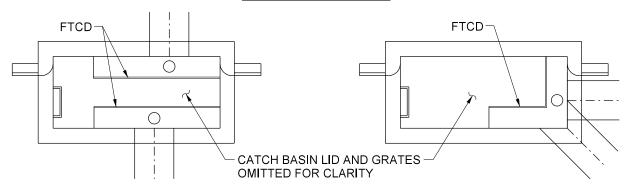
STANDARD No. 313 (7 OF 14)



CENTERED OR BACK WALL CP (1)(5)

SIDE OR CORNER CP (2)(4)

CATCH BASIN 301



CENTERED OR BACK WALL CP (3)(5)

SIDE OR CORNER CP (2)(3)(4)

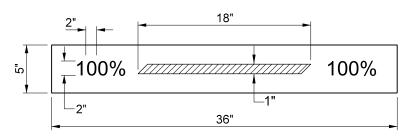
CATCH BASIN 302

NOTES:

- (1) WHEN STEPS OBSTRUCT THE STANDARD FTCD INSTALLATION. ANGLE THE SCREEN IN FRONT OF THE CONNECTOR PIPE TO AVOID THE STEPS AS SHOWN.
- (2) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS, THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING.
- (3) MULTIPLE GRATE CATCH BASIN WIDTH SHOWN. FOR SINGLE GRATE APPLICATIONS PLACE FTCD PER CATCH BASIN 301 DETAILS ABOVE.
- (4) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED, SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.
- (5) INSTALL FTCD, TYPE B (SIDE WALL MOUNT), TO AVOID STEPS AS NECESSARY.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE REGISTER FTCD - CPS SCREEN coll 11/30/22 LOCATIONS FOR STANDARD NO. DIRECTOR OF TRANSPORTATION NEER DATE **CB301 AND CB302 COMBINATION** C48048 MARK LANCASTER, P.E. **INLET CATCH BASINS** REVISION DESCRIPTION MARK DATE APPROVED CIVIL OF CALIFORN **STANDARD No. 313 (8 OF 14)**

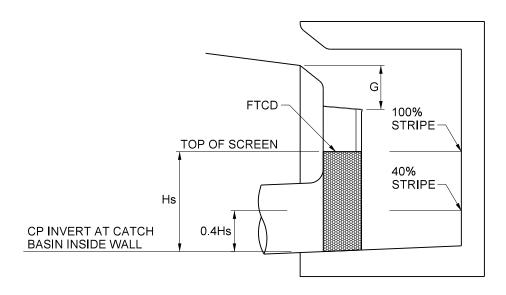


100% STRIPE

(RED STRIPES AND NUMBERS ON WHITE BACKGROUND)

40% STRIPE

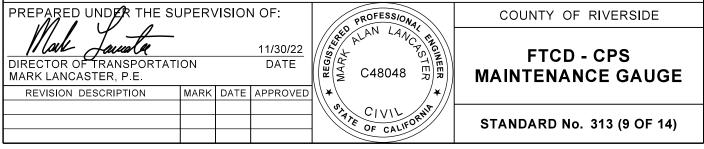
(RED STRIPES AND NUMBERS ON WHITE BACKGROUND)



NOTES:

- 1. PAINT SHALL BE RED STRIPES AND NUMBERS ON WHITE BACKGROUND ON THE BACK WALL OF THE CATCH BASIN, LABELING 40% AND 100% SCREEN HEIGHT AS SHOWN ABOVE. PAINT SHALL BE WATERBORNE ACRYLIC AND REFLECTIVE.
- 2. SURFACES SHALL BE CLEAN, DRY AND FREE FROM ALL CONTAMINANTS PRIOR TO PAINTING.
- 3. STENCILING SHALL BE VISIBLE FROM THE STREET THROUGH CATCH BASIN OPENING.

NOT TO SCALE



FTCD SIZING TABLE FOR STANDARD NO. 300 CURB INLET CATCH BASIN ON GRADE CONDITION

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT Hb (IN)	SCREEN HEIGHT Hs (IN)	SCREEN LENGTH L (FT)	G (IN)
	2.5 (30 inches)	7.0		8.0	8.0	7.0	4.0
		10.0	_			7.0	
	(50 mones)	14.0				10.0	
	0.07	7.0	_	8.0		7.0	
	2.67 (32 inches)	10.0			10.0	7.0	4.0
	(32 11101103)	14.0				10.0	
		7.0				7.0	
	2.83	10.0		8.0	12.0	7.0	4.0
	(34 inches)	14.0	1 -	0.0	12.0	10.0	4.0
		21.0				11.0	
	3.0	7.0	-	8.0	12.0	4.0	6.0
		10.0		0.0	12.0	6.0	0.0
		14.0		8.0	14.0	10.0	4.0
		21.0				14.0	
300		28.0				18.0	
	3.5	7.0	-			4.0	6.0
		10.0		8.0	18.0	6.0	
		14.0				6.0	
		21.0		40.0	16.0	7.0	
		28.0		10.0		9.0	
		7.0				4.0	6.0
		10.0				6.0	
	4.0	14.0	_	12.0	20.0	6.0	
		21.0				7.0	
		28.0				8.0	
		7.0				4.0	8.0
	4.5 OR GREATER	10.0	1		24.0	6.0	
		14.0	_	12.0		6.0	
		21.0				7.0	
		28.0				8.0	

NOTES:

- 1. FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE.
- 2. WHERE THE SCREEN LENGTH (L) IS EQUAL TO THE CATCH BASIN WIDTH, THE CPS SHALL BE THE FULL WIDTH OF THE CATCH BASIN AND UTILIZE A SIDE WALL MOUNT.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE REGISTERED MARK PRU LANCE TERRET FTCD - CPS SIZING TABLE 11 bolk DIRECTOR OF TRANSPORTATION 11/30/22 FOR STANDARD NO. 300 CURB DATE **INLET CATCH BASIN** MARK LANCASTER, P.E. ON GRADE CONDITION REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNIA **STANDARD No. 313 (10 OF 14)**

FTCD SIZING TABLE FOR STANDARD NO. 301 AND 302 COMBINATION INLET CATCH BASIN ON GRADE CONDITION

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT Hb (IN)	SCREEN HEIGHT Hs (IN)	SCREEN LENGTH L (FT)	G (IN)
		7.0	1		10.0	4.0	10.0
		10.0	2	0.0		7.0	
	3.0	14.0	1	8.0		8.0	
		14.0	2			8.0	
		7.0	1			6.0	
	3.5	10.0	2	10.0	12.0	5.0	12.0
	3.5	14.0	1	10.0		5.0	
301		14.0	2			6.0	
301	4.0	7.0	1	12.0		4.0	13.0
		10.0	2		15.0	5.0	
		14.0	1			4.0	
		14.0	2			5.0	
	4.5 OR GREATER	7.0	1	12.0	18.0	4.0	16.0
		10.0	2			5.0	
		14.0	1			4.0	
		14.0	2			5.0	
		-	1		9.0	3.0	10.0
	3.0	-	2	9.0		5.0	
		-	3			6.0	
		-	1			2.5	
302	3.5	-	2	10.0	12.0	4.0	12.0
		-	3	1		5.0	
	40.00	-	1			2.5	12.0
	4.0 OR GREATER	-	2	10.0	18.0	4.0	
		-	3			5.0	

NOTES:

NOT TO SCALE

1. FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE.

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION DATE MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED



COUNTY OF RIVERSIDE

FTCD - CPS SIZING TABLE
FOR STANDARD NO. 301 AND 302
COMBINATION INLET
CATCH BASIN
ON GRADE CONDITION

STANDARD No. 313 (11 OF 14)

FTCD SIZING TABLE FOR STANDARD NO. 300 CURB INLET CATCH BASIN SUMP CONDITION

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT Hb (IN)	SCREEN HEIGHT Hs (IN)	SCREEN LENGTH L (FT)	G (IN)
		7.0	-	12.0	16.0	7.0	4.0
	3.5	10.0		14.0	14.0	6.0	
		14.0		14.0	14.0	7.0	
		7.0				7.0	
		10.0	-	16.0	18.0	6.0	4.0
	4.0	14.0				6.0	
		21.0		10.0	18.0 16.0	7.0	
		28.0		16.0		8.0	
300	4.5	7.0	-		.0 18.0	7.0	10.0
300		10.0		16.0		6.0	
		14.0				6.0	
		21.0		18.0	10.0	7.0	
		28.0		16.0	16.0	8.0	
		7.0				7.0	10.0
		10.0	_	16.0	24.0	6.0	
	5.0 OR GREATER	14.0				6.0	
	JILATEN	21.0		10.0	20.0	7.0	12.0
		28.0		18.0	20.0	8.0	

NOTES:

1. FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE.

PREPARED UNDER THE SUPERVISION OF:

| COUNTY COUNTY

COUNTY OF RIVERSIDE

FTCD - CPS SIZING TABLE FOR STANDARD NO. 300 CURB INLET CATCH BASIN SUMP CONDITION

STANDARD No. 313 (12 OF 14)

FTCD SIZING TABLE FOR STANDARD NO. 301 AND 302 COMBINATION INLET CATCH BASIN SUMP CONDITION

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT Hb (IN)	SCREEN HEIGHT Hs (IN)	SCREEN LENGTH L (FT)	G (IN)
	3.5	7.0	1	14.0	9.0	7.0	11.0
	4.0	7.0	1	16.0	44.0	5.0	40.0
	4.0	10.0	2	16.0	11.0	6.0	13.0
		7.0	1			5.0	
	4.5	10.0	2	18.0	15.0	6.0	100
301	4.5	14.0	1	18.0	15.0	5.0	13.0
		14.0	2			6.0	
	5.0 OR GREATER	7.0	1	18.0		4.0	16.0
		10.0	2		10.0	6.0	
		14.0	1		18.0	5.0	
		14.0	2			6.0	
	4.0	-	2	14.0	8.0	2.5	18.0
	4.0	-	3	14.0	0.0	6.0	
		-	1	16.0	8.0	2.5	22.0
302	4.5	-	2	40.0	10.0	5.0	20.0
		-	3	16.0	10.0	7.0	
		-	1	16.0		2.5	24.0
	5.0 OR GREATER	-	2		12.0	5.0	
		-	3			7.0	

NOTES:

1. FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE.

NOT TO SCALE



COUNTY OF RIVERSIDE

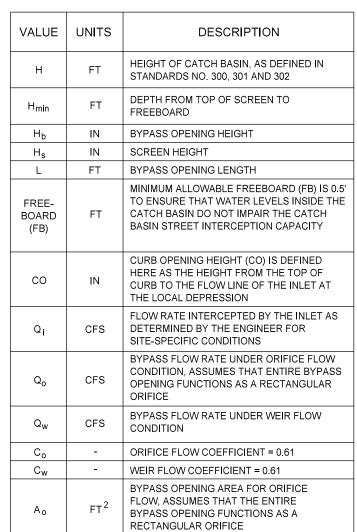
FTCD - CPS SIZING TABLE FOR STANDARD NO. 301 AND 302 COMBINATION INLET CATCH BASIN SUMP CONDITION

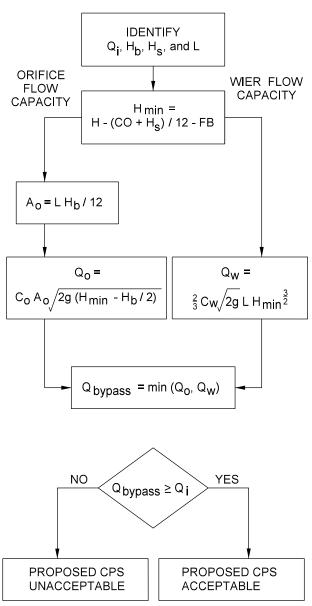
STANDARD No. 313 (13 OF 14)

FREEBOARD (FB) = 0.5' MIN

NOTE:

THE BELOW ANALYSIS ASSUMES THAT THE CONNECTOR PIPE SCREEN IS COMPLETELY CLOGGED AND ALL FLOW IS CONVEYED THROUGH THE BYPASS





NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

II LOW Jawake 11/30/22
DIRECTOR OF TRANSPORTATION DATE
MARK LANCASTER, P.E.

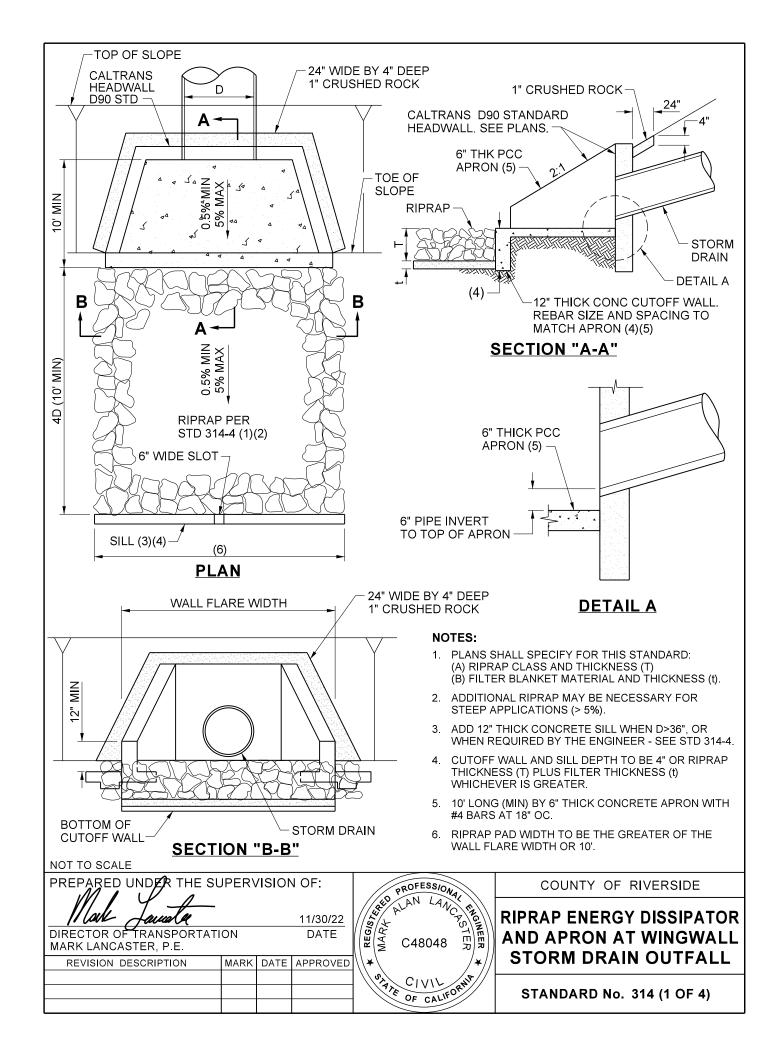
REVISION DESCRIPTION MARK DATE APPROVED

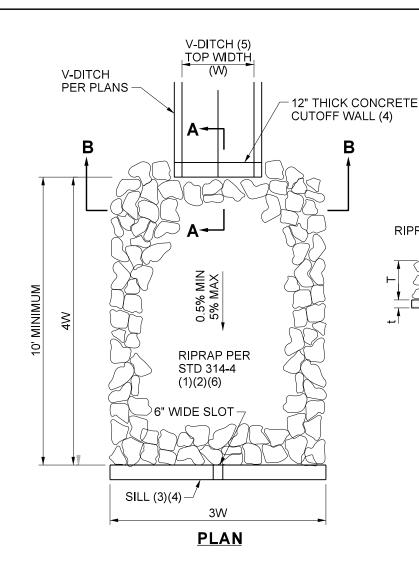


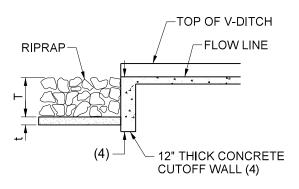
COUNTY OF RIVERSIDE

FTCD - CPS BYPASS CHECK FLOW CHART

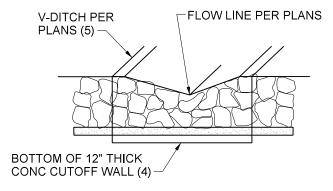
STANDARD No. 313 (14 OF 14)







SECTION "A-A"



SECTION "B-B"

NOTES:

- PLANS SHALL SPECIFY FOR THIS STANDARD:

 (A) RIPRAP CLASS AND THICKNESS (T)
 (B) FILTER BLANKET MATERIAL AND THICKNESS (t).
- 2. ADDITIONAL RIPRAP MAY BE NECESSARY FOR STEEP APPLICATIONS (> 5%).
- 3. ADD 12" THICK CONCRETE SILL WHEN W>36", OR WHEN REQUIRED BY THE ENGINEER SEE STD 314-4.
- CUTOFF WALL AND SILL DEPTH TO BE 4' OR RIPRAP THICKNESS (T) PLUS FILTER THICKNESS (t) WHICHEVER IS GREATER.
- 5. DETAIL MAY BE UTILIZED FOR CIRCULAR CONCRETE DITCH ALSO.
- FOR 3' WIDE DITCH AT SLOPE OF <5% AND A FLOW RATE < 3.0 CFS, ENERGY DISSIPATOR MAY BE 6' BY 6' No. 2 BACKING PER STD 314-4.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

II LOW Jawake 11/30/22 DIRECTOR OF TRANSPORTATION DATE

MARK LANCASTER, P.E.

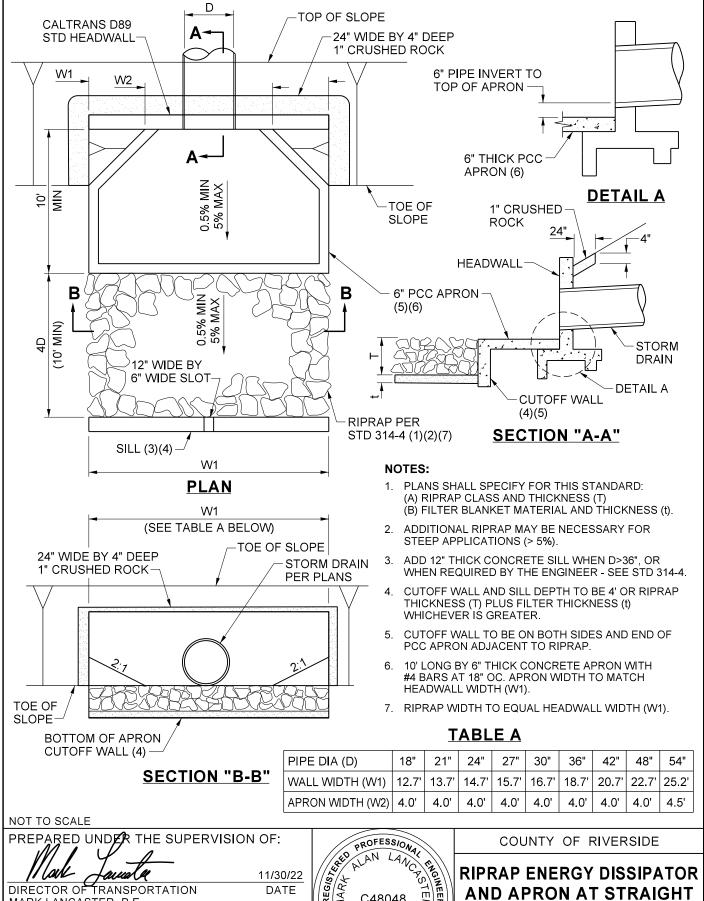
REVISION DESCRIPTION MARK DATE APPROVED



COUNTY OF RIVERSIDE

RIPRAP ENERGY DISSIPATOR AT V-DICTH OUTFALL

STANDARD No. 314 (2 OF 4)



MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED



HEADWALL OUTFALL

STANDARD No. 314 (3 OF 4)

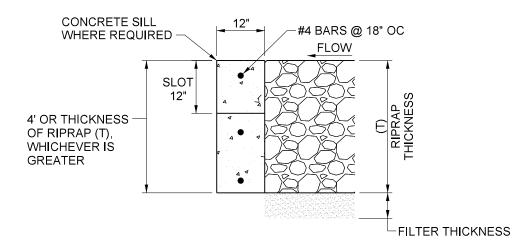
RIPRAP ENERGY DISSIPATER SIZING TABLE

DESIGN VELOCITY (FT/SEC)	RIPRAP CLASS	RIPRAP THICKNESS (T) PLACEMENT METHOD A *	RIPRAP THICKNESS (T) PLACEMENT METHOD B *	FILTER MATERIAL **	FILTER THICKNESS (t)
6-8	NO. 2 BACKING	N/A	1.25'	1" CRUSHED ROCK	0.5'
8-13	1/4 TON	N/A	3.3'	1" CRUSHED ROCK	0.75'
13-15	1/2 TON	3.4'	4.3'	1" CRUSHED ROCK	1.0'
15-17	1 TON	4.3'	5.4'	1" CRUSHED ROCK	1.0'
17-20	2 TON	5.4'	N/A	1" CRUSHED ROCK	1.0'

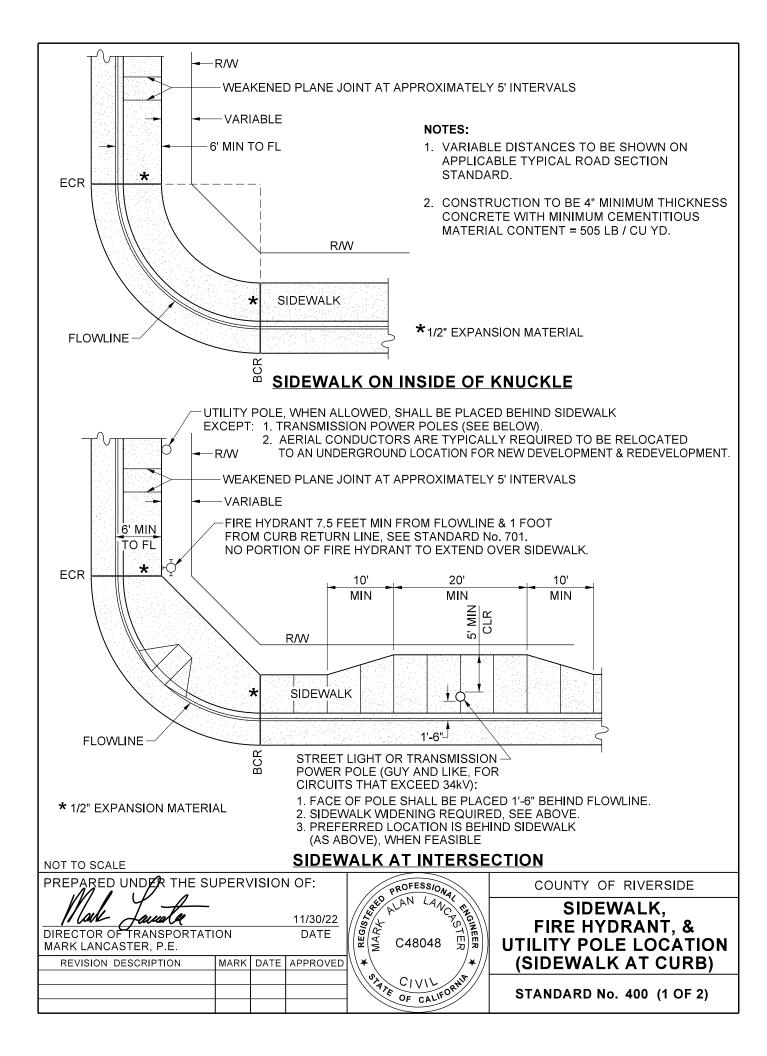
- ★ FOR RIPRAP GRADATION AND PLACEMENT METHOD DESCIPTIONS SEE CALTRANS STD SPECIFICATIONS SECTION 72-2
- ** SEE 1" CRUSHED ROCK GRADATION THIS SHEET

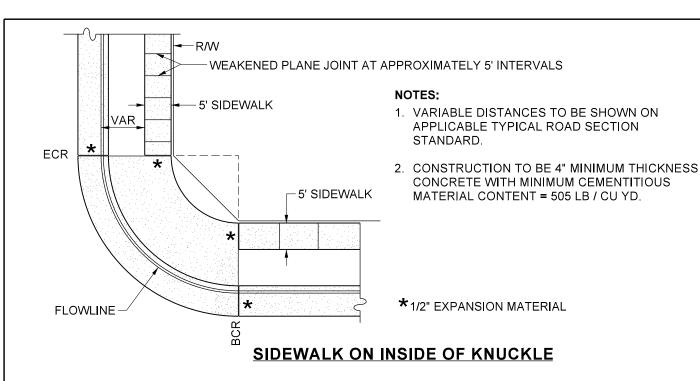
1" CRUSHED ROCK GRADATION

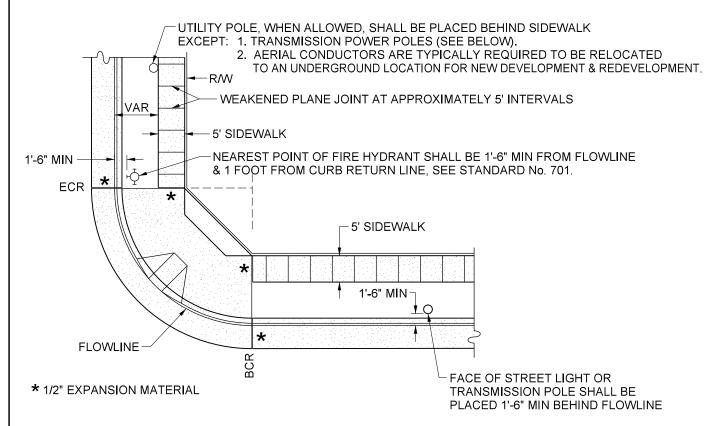
SIEVE SIZE	PERCENT (%) PASSING
1-1/2" (37.5 mm)	100
1" (25.0 mm)	90-100
3/4" (19.0 mm)	30-60
1/2" (12.5 mm)	0-20
3/8" (9.5 mm)	-
No. 4 (4.75 mm)	0-5
No. 8 (2.36 mm)	-
ASTM C131 Testing Grading	A



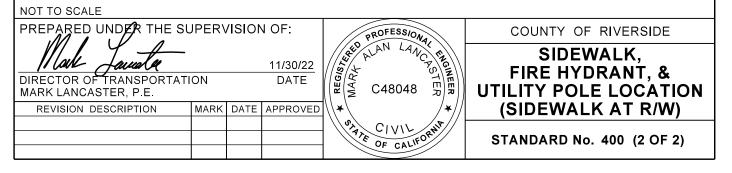
NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER COUNTY OF RIVERSIDE 1 LOUR RIPRAP ENERGY 11/30/22 DIRECTOR OF TRANSPORTATION DATE **DISSIPATOR SIZING** C48048 MARK LANCASTER, P.E. AND CONCRETE SILL REVISION DESCRIPTION MARK DATE APPROVED OF CALFORN **STANDARD No. 314 (4 OF 4)**

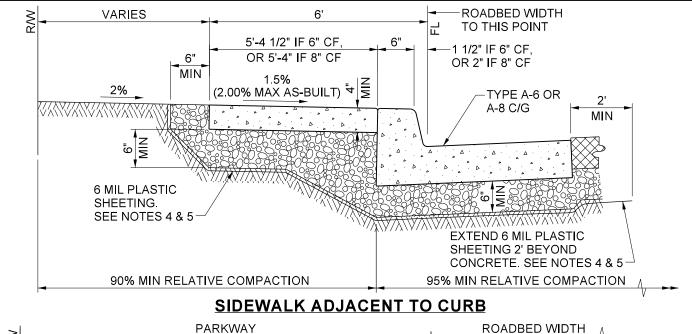


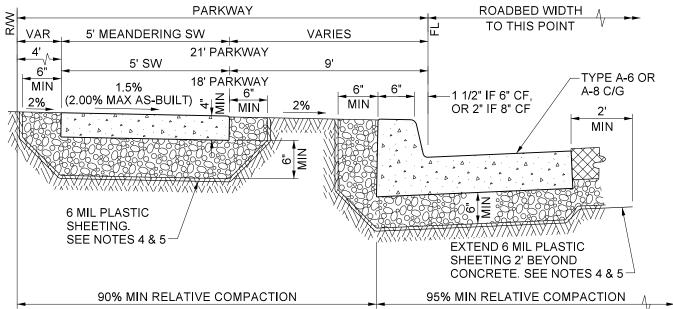




SIDEWALK AT INTERSECTION





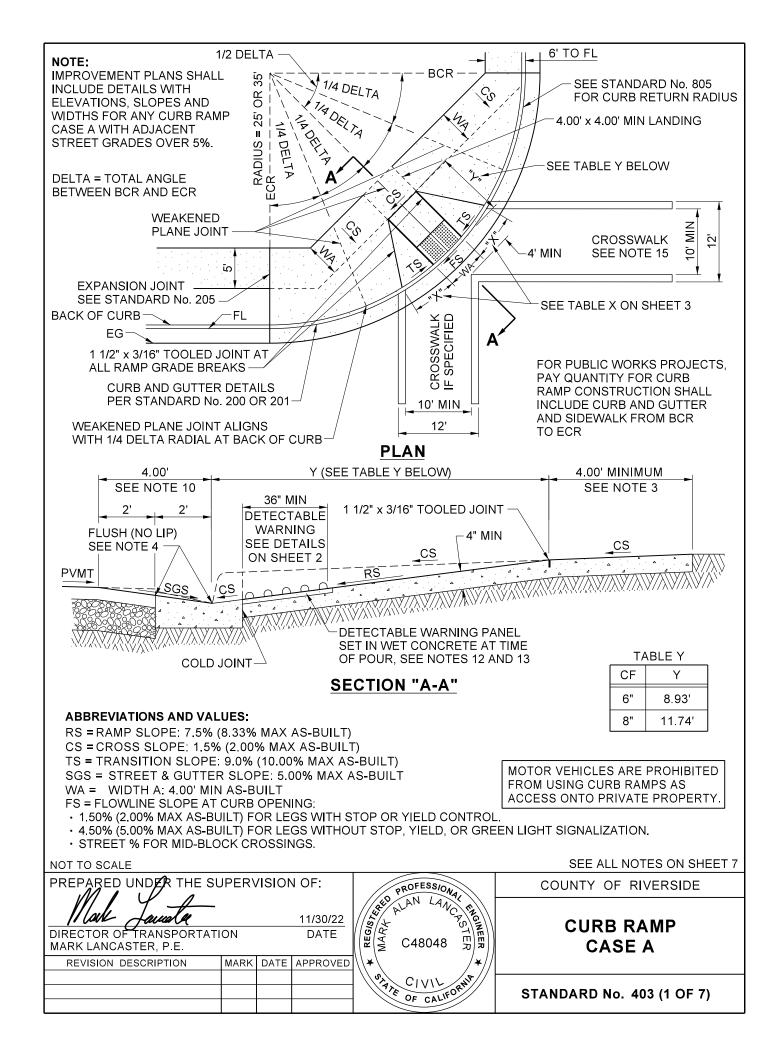


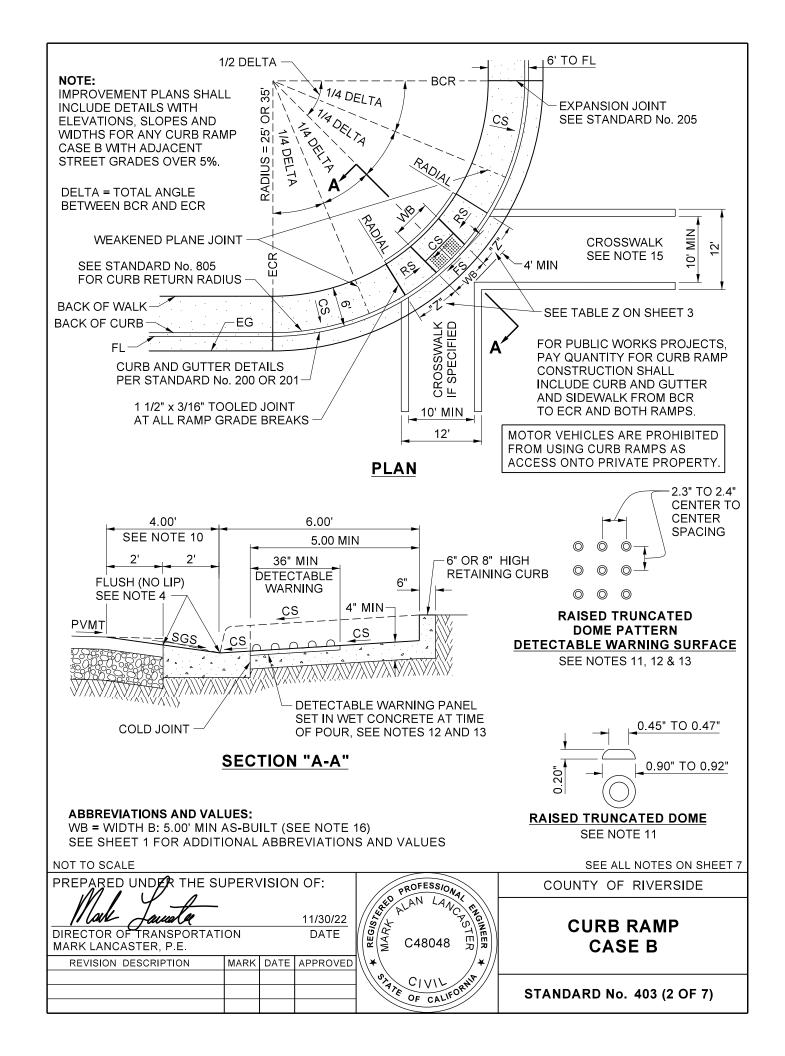
MEANDERING SIDEWALK IN 21' PARKWAY SIDEWALK NOT ADJACENT TO CURB IN 18' PARKWAY

NOTES:

- 1. ALL CONSTRUCTION SHALL BE CONCRETE WITH MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB/CU YD.
- 2. TO MAINTAIN PUBLIC PEDESTRIAN ACCESS, TEMPORARY TRAP FENCES FOR MODEL HOMES SHALL BE PLACED BEHIND PUBLIC SIDEWALK AND NOT BETWEEN PUBLIC SIDEWALK AND CURB.
- 3. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE STANDARD SPECIFICATIONS SECTION 16.03.
- 4. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS AND STRUCTURES. SEE COUNTY STANDARD SPECIFICATION SECTION 16.04.
- 5. WHEN USING 6 MIL PLASTIC SHEETING, PLACE THE SHEETING BETWEEN THE CLASS 2 AGGREGATE BASE AND THE COMPACTED NATIVE SOIL. EXTEND THE SHEETING 2 FEET BEYOND THE EDGE OF CONCRETE GUTTER INTO THE ROADWAY. IN ORDER TO PREVENT DAMAGE TO THE PLASTIC SHEETING RESULTING FROM LATER GRADING AND COMPACTING, PLACE THE EXTENDED 2 FEET OF SHEETING ONLY AFTER THE SUBGRADE HAS BEEN CERTIFIED BY THE SURVEYOR.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER COUNTY OF RIVERSIDE PRUI LANCE ENGINEER lack 11/30/22 DIRECTOR OF TRANSPORTATION DATE SIDEWALK AND CURB C48048 MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN STANDARD No. 401





RS = RAMP SLOPE: 7.5% (8.33% MAX AS-BUILT) TS = TRANSITION SLOPE: 9.0% (10.00% MAX AŚ-BUILT) FS = FLOWLINE SLOPE AT CURB OPENING: 1.50% (2.00% MAX AS-BUILT) FOR LEGS WITH STOP OR YIELD CONTROL. $\Delta/4$ • 4.50% (5.00% MAX AS-BUILT) FOR LEGS WITHOUT STOP, YIELD, OR TC = TOP OF CURB GREEN LIGHT SIGNALIZATION. STREET % FOR MID-BLOCK CROSSINGS. $\Delta/2$ CF = CURB FACE $\Delta/4$ FL = FLOWLINE TC FLOWLINE SLOPE CF FL SLOPE 4.00' CASE A 5.00' CASE X_S OR Z_S X_L OR Z_L B,C,DSHORT **WIDTH** LONG (15' MAX) **PROFILE** TABLE X - CASE "A" TRANSITION LENGTH ALONG CURB RETURN (FEET) FLOWLINE SLOPE (ALONG CURB RETURN) TRANSITION CF SLOPE 1% 4% 5% 6% 2% 3% 3.33 5.00 4.55 4.17 3.85 3.57 X_{S} 6" 9.0% 7.14 X_L 6.25 8.33 10.11 12.50 16.67 5.13 6.06 5.56 4.76 X_{S} 6.67 4.44 9.0% 8.33 9.52 11,11 13.33 16.67 22.22 NOTE: THE TRANSITION LENGTH IS NOT REQUIRED TO GO BEYOND THE BCR OR ECR, NOR EXCEED 15' IN LENGTH. TABLE Z - CASE "B", "C" AND "D" RAMP LENGTH ALONG BACK OF WALK (FEET)

CF RAMP		Z	FLOWLINE SLOPE (ALONG CURB)					
CI	SLOPE		1%	2%	3%	4%	5%	6%
6"	7 50/	Z _S	5.88	5.26	4.76	4.35	4.00	3.70
0	7.5%	Z _L	7.69	9.09	11.11	14.29	15.0 *	15.0 *
0"	7.50/	Z _S	7.84	7.02	6.35	5.80	5.33	4.94
8" 7.5%	Z_{L}	10.26	12.12	14.81	15.0 *	15.0 *	15.0 *	

 $^{^{}f \star}$ NOTE: RAMP LENGTH IS NOT REQUIRED TO EXCEED 15.0' ALONG THE BACK OF WALK.

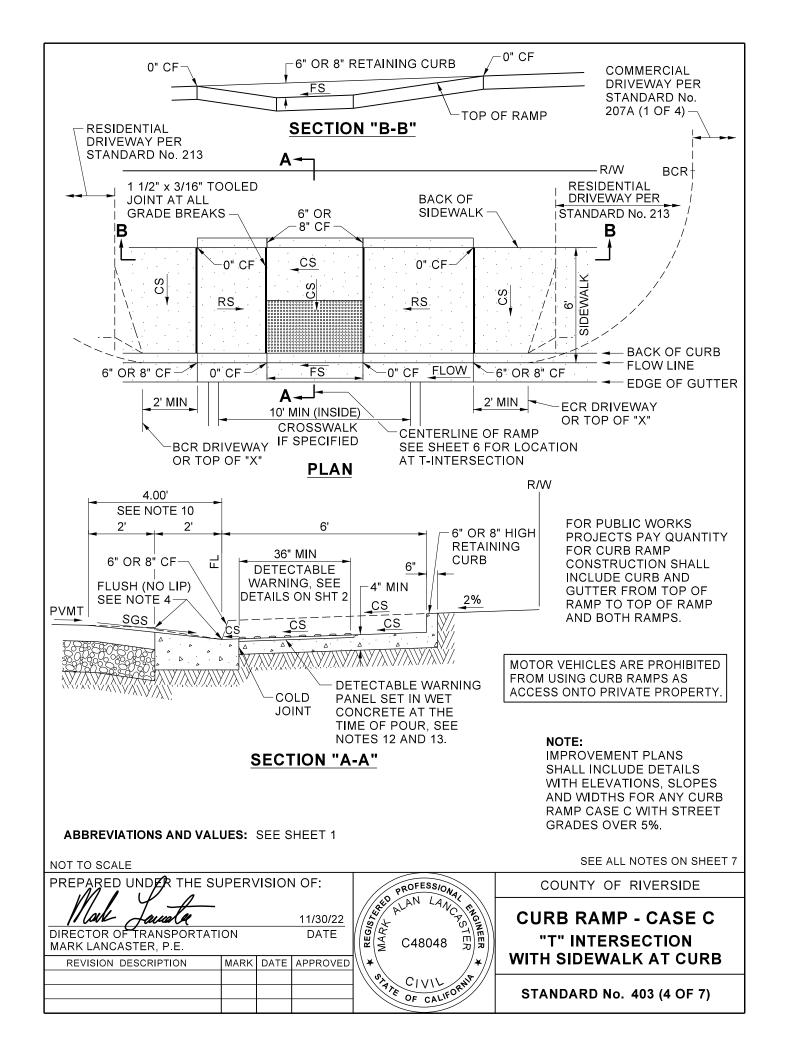
TO CALCULATE "X" OR "Z" LENGTH:

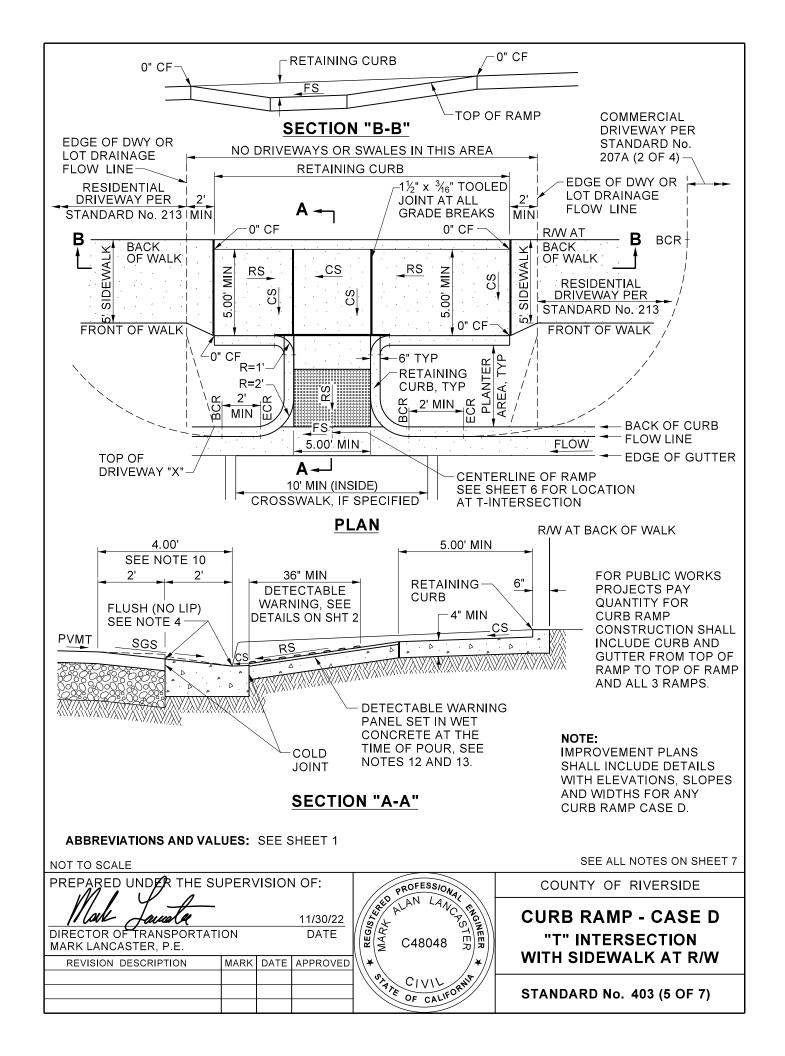
SHORT SIDE (DOWN SLOPE): CURB FACE (FEET) $X_S OR Z_S(FT) = \frac{1}{TRANS OR RAMP SLOPE + FL SLOPE}$

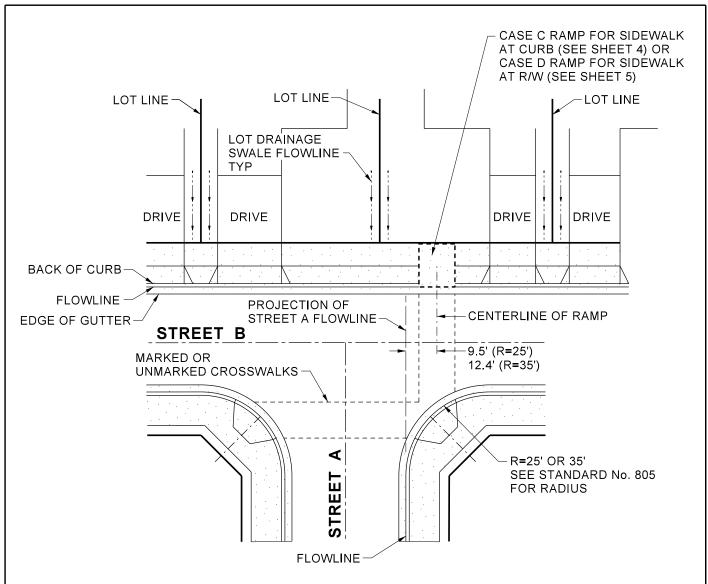
LONG SIDE (UP SLOPE): CURB FACE (FEET) $X_L OR Z_L(FT) = \frac{1}{TRANS OR RAMP SLOPE - FL SLOPE}$

ENGINEER TO SHOW X_S , X_L , Z_S , AND Z_L ON IMPROVEMENT PLANS

SEE ALL NOTES ON SHEET 7 NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE LOUR 11/30/22 **CURB RAMP** DIRECTOR OF TRANSPORTATION DATE C48048 **PROFILE** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED CIVI OF CALIFORN **STANDARD No. 403 (3 OF 7)**







RAMP LOCATION AT "T" INTERSECTION (RIGHT TURN SIDE OF STREET A)

CASES "C" AND "D"

NOTE:

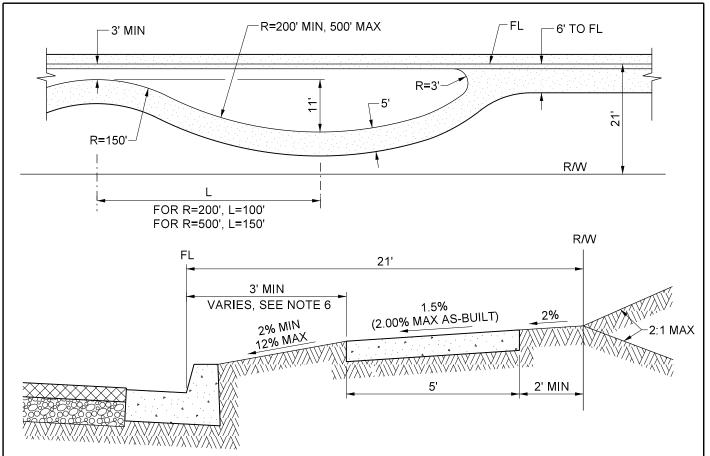
DRIVEWAYS TO BE LOCATED SO THAT THEY DO NOT CONFLICT WITH REQUIRED RAMP LOCATION. AVOID LOCATING DRIVEWAYS WITHIN INTERSECTION.

SEE ALL NOTES ON SHEET 7 NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTER . **CURB RAMP** lack 11/30/22 DIRECTOR OF TRANSPORTATION CASE C AND D DATE MARK LANCASTER, P.E. **LOCATION AT** REVISION DESCRIPTION MARK DATE APPROVED "T" INTERSECTIONS OF CALIFORN **STANDARD No. 403 (6 OF 7)**

NOTES:

- 1. TO MEET AMERICAN WITH DISABILITIES ACT STANDARDS, MAXIMUM STATED SLOPES AND MINIMUM STATED DISTANCES ARE ABSOLUTE AND NO CONSTRUCTION TOLERANCES WILL BE PERMITTED.
- 2. IF THE DISTANCE FROM CENTER OF CURB RETURN TO EXISTING RIGHT-OF-WAY LINE IS INSUFFICIENT TO ACCOMMODATE THE CASE A CURB RAMP AND TOP LANDING, THEN USE THE CASE B CURB RAMP.
- 3. THE MINIMUM SIDEWALK WIDTH IS 5.00' WHERE A VERTICAL OBJECT (SUCH AS A CURB OR WALL) IS ADJACENT TO THE PEDESTRIAN ACCESS ROUTE.
- 4. TRANSITIONS FROM CURB RAMPS TO SIDEWALKS, GUTTERS, AND STREETS SHALL BE FLUSH AND FREE FROM ABRUPT LEVEL CHANGES. NO LIPS ARE PERMITED AT THE GUTTER FLOWLINE OR EDGE OF PAVEMENT.
- 5. THE TOP OF CURB WIDTH IS NOT INCLUDED IN THE MEASUREMENT OF MINIMUM SIDEWALK WIDTH.
- 6. THE TRANSITION SLOPE OF THE FLARED WINGS OF THE CASE A CURB RAMP IS MEASURED ALONG THE BACK OF CURB.
- 7. FOR CASE B CURB RAMPS, CONSTRUCT WEAKENED PLANE JOINTS AT 1/4 DELTAS WHEN THE RADIUS EQUALS 35' AND AT TOPS OF RAMPS WHEN THE RADIUS EQUALS 25'.
- 8. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 9. CONCRETE SHALL HAVE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD.
- 10. THE ROAD SURFACE AND GUTTER SURFACE SHALL NOT EXCEED 5.00% WITHIN 4' OF THE CURB RAMP EDGE (FLOW LINE).
- 11. DETECTABLE WARNING SURFACES ARE REQUIRED WHEREVER AT-GRADE PEDESTRIAN SURFACES ENTER INTO A VEHICULAR TRAVEL WAY (EXCEPT NOT REQUIRED AT DRIVEWAY APPROACHES).
- 12. CURB RAMPS SHALL INCLUDE A YELLOW DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL CURB OPEN WIDTH AND 3'-0" DEPTH OF THE RAMP. DETECTABLE WARNING SURFACES SHALL CONSIST OF A PANEL SET INTO WET CONCRETE AND CONFORM TO THE DETAILS ON SHEET 2 OF THIS STANDARD. NO BOLT DOWN OR GLUE DOWN PANELS WILL BE ALLOWED FOR NEW RAMP CONSTRUCTION.
- 13. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.
- 14. UTILITY PULL BOXES, MANHOLES, VAULTS AND ALL OTHER UTILITY FACILITIES ARE NOT TO BE LOCATED WITHIN THE BOUNDARIES OF THE CURB RAMP. EXISTING STRUCTURES WILL BE RELOCATED OR ADJUSTED TO GRADE BY THE OWNER PRIOR TO, OR IN CONJUNCTION WITH, CURB RAMP CONSTRUCTION.
- 15. CROSSWALK STRIPING IS ONLY APPLIED IF SHOWN ON IMPROVEMENT PLANS. CROSSWALK STRIPING, WHEN CALLED FOR, SHALL BE PER STANDARD No. 1211.
- 16. FOR NEW CASE B, CASE C, AND CASE D CURB RAMPS THE LEVEL LANDING AT THE BOTTOM OF THE RAMPS SHALL BE A MINIMUM OF 5.00' WIDE. FOR INVENTORYING EXISTING CASE B AND CASE C RAMPS, A CURB OPENING WIDTH OF 4.00' MIN IS ACCEPTABLE.
- 17. FOR PUBLIC WORKS PROJECTS, THE CONTRACT UNIT PRICE FOR CURB RAMP SHALL INCLUDE RAMP, SIDEWALK, CURB AND GUTTER (OR SPANDREL) FROM BCR TO ECR.

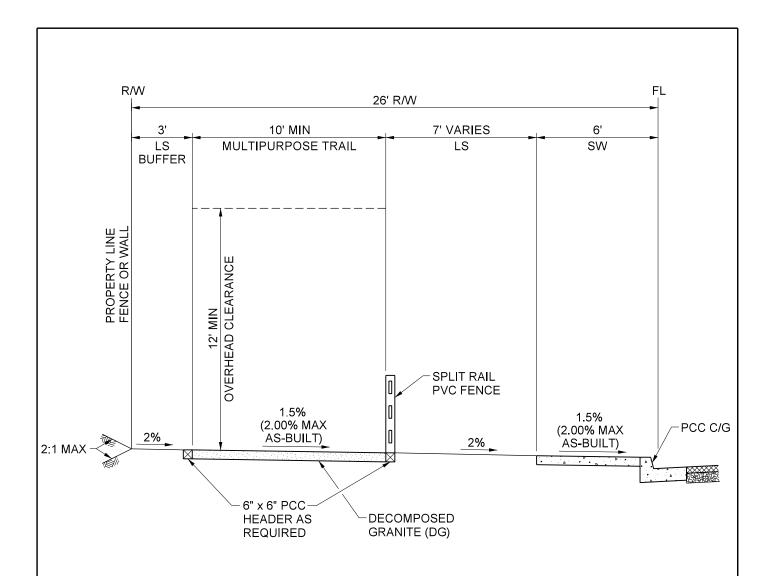
NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE REGISTER . ALAN LANCES ENGINEER coll 11/30/22 **CURB RAMP** DIRECTOR OF TRANSPORTATION DATE C48048 MARK LANCASTER, P.E. NOTES REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORNIA **STANDARD No. 403 (7 OF 7)**



NOTES:

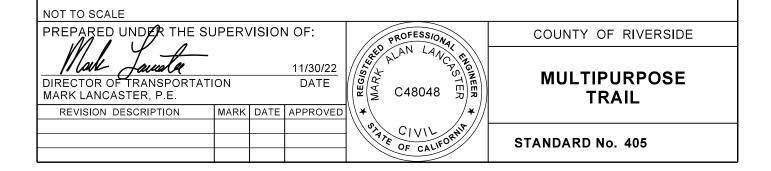
- 1. RADII FOR CURVED SIDEWALK SHALL VARY BETWEEN 200' AND 500' AT FRONT OF SIDEWALK.
- 2. SIDEWALK SHALL BE A MINIMUM OF 6' WIDTH ADJACENT TO CURB.
- 3. SIDEWALK SHALL BE 3' MIN AWAY FROM FLOW LINE EXCEPT AT CURB RETURNS, BUS STOPS, AND AT TOP OF "T" INTERSECTIONS WHERE CURB RAMPS ARE REQUIRED.
- 4. SIDEWALK LAYOUT ON PLANS IS CONCEPTUAL ONLY. APPROVAL OF THE FINAL SIDEWALK LAYOUT SHALL BE MADE IN THE FIELD AND ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AS APPROVED BY THE INSPECTOR PRIOR TO FINAL CONSTRUCTION.
- 5. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 6. IRRIGATION TYPE TO BE LOW VOLUME OR SUBSURFACE BETWEEN WALK AND CURB.
- 7. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD.
- 8. THE RUNNING SLOPE OF SIDEWALK MAY EQUAL THE STREET SLOPE, EVEN IF THE STREET SLOPE IS GREATER THAN 8.33%. WHERE SIDEWALK EXCEEDS THE STREET SLOPE, SUCH AS TRANSITIONS IN ELEVATION OF MEANDERING SIDEWALK, A SIDEWALK RUNNING SLOPE GREATER THAN 5% WOULD BE CONSIDERED A RAMP. IN THIS CASE, RAMPS WOULD BE DESIGNED AT 7.5% MAX (8.33% MAX AS-BUILT) RUNNING SLOPE AND REQUIRE LANDINGS AS SPECIFIED IN THE 2010 ADA STANDARDS.

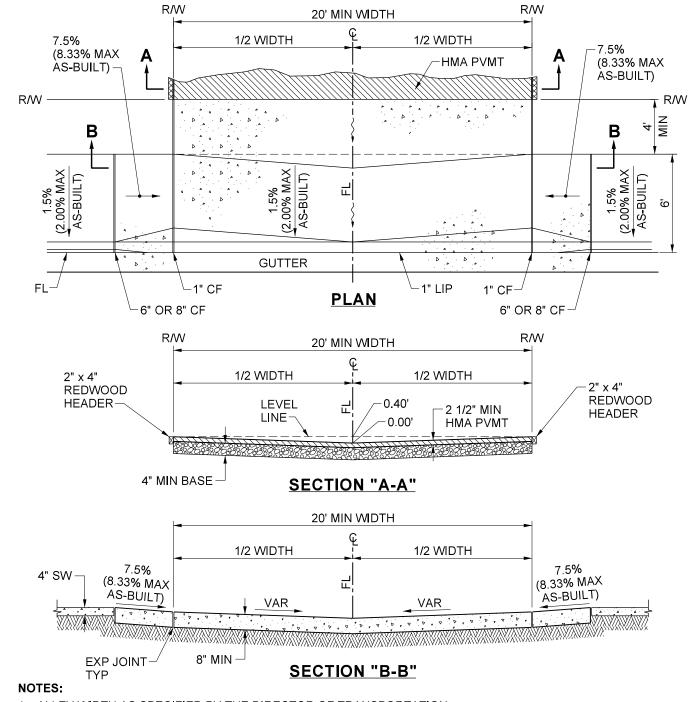
NOT TO SCALE				
PREPARED UNDER THE S	JPERVISIO	N OF:	PROFESS/ONA	COUNTY OF RIVERSIDE
DIRECTOR OF TRANSPORTAT MARK LANCASTER, P.E.	ION	11/30/22 DATE	MARA CASOR C	MEANDERING SIDEWALK
REVISION DESCRIPTION	MARK DATE	APPROVED	1 \ \ \ / //	
			OF CALIFORNIA	STANDARD No. 404



NOTES:

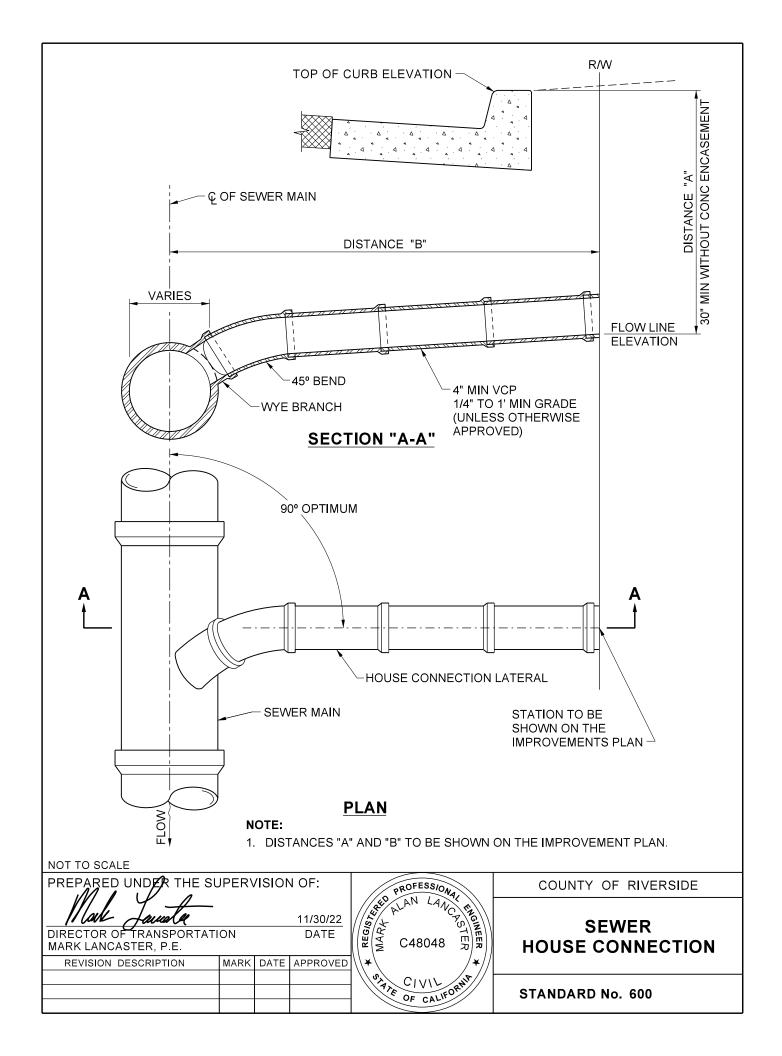
- 1. OMIT FENCE WITHIN SIGHT DISTANCE OF RESTRICTED USE AREAS.
- 2. TRAIL AND FENCE TO BE CONSTRUCTED PER LATEST DETAILS.
- 3. FOR TRAIL AND FENCE DETAILS, REFER TO THE COUNTY OF RIVERSIDE COMPREHENSIVE LANDSCAPE GUIDELINES AND STANDARDS.

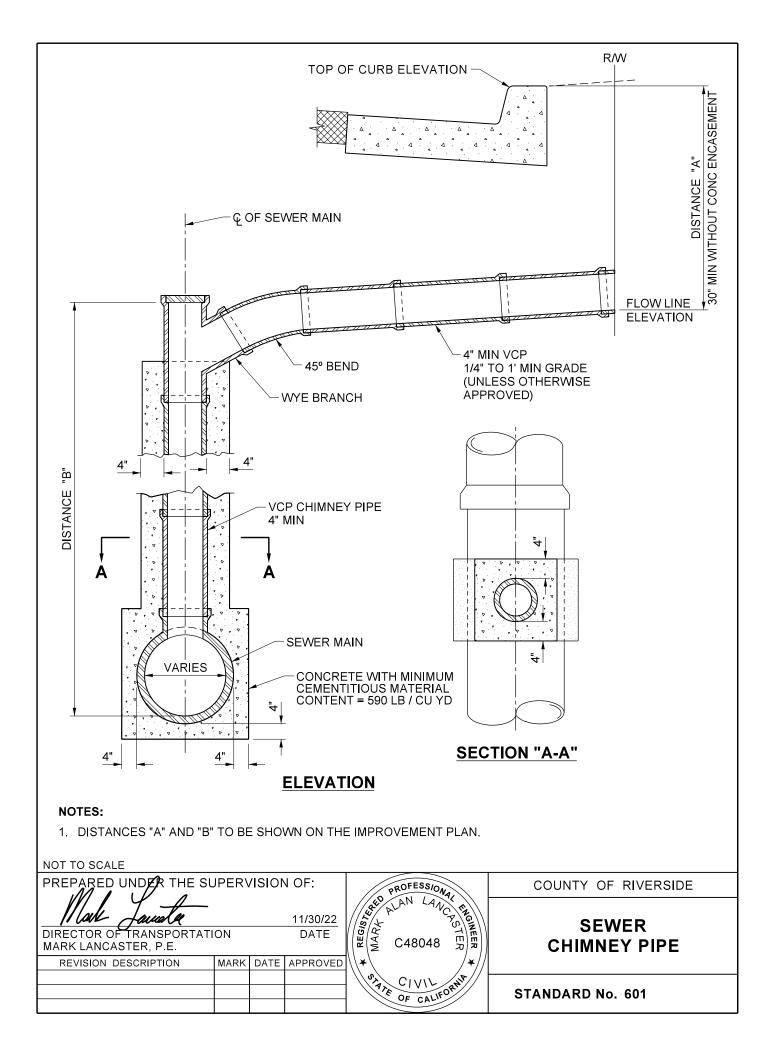


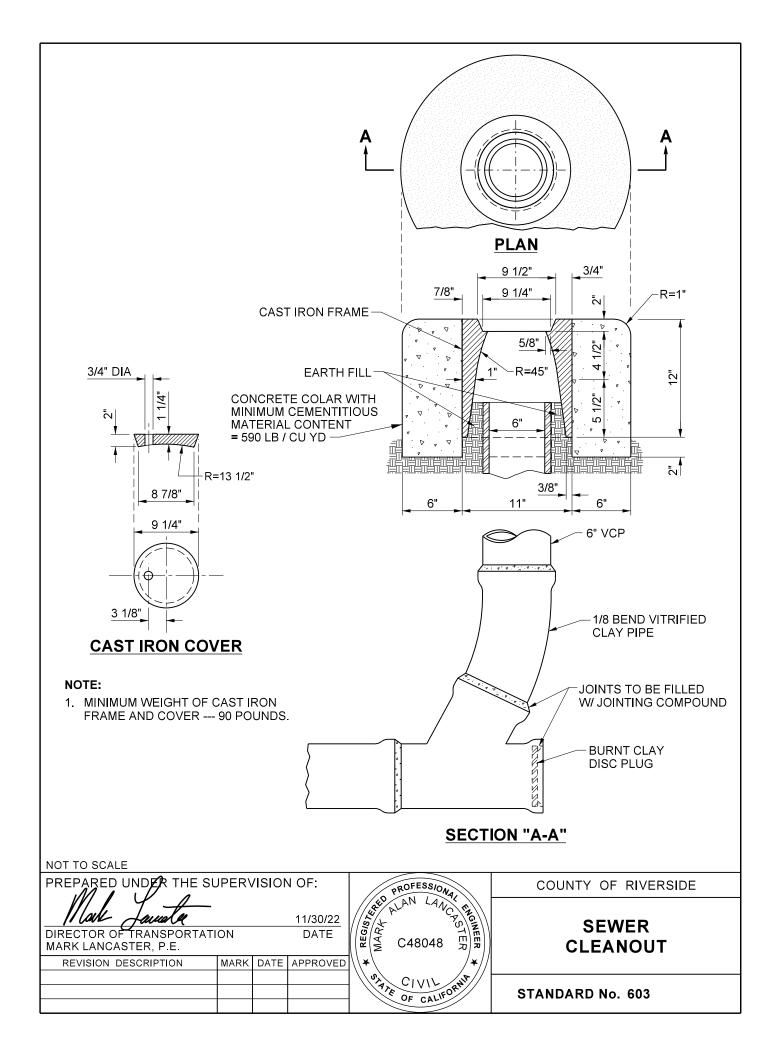


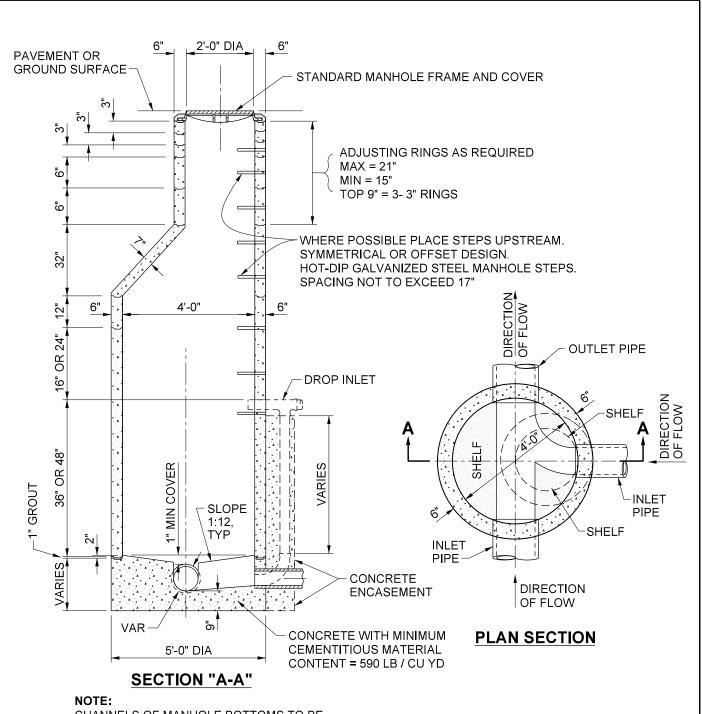
- 1. ALLEY WIDTH AS SPECIFIED BY THE DIRECTOR OF TRANSPORTATION.
- 2. ALLEY APRON SHALL BE 8" THICK CONCRETE WITH MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU FT.
- 3. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
- 4. RELATIVE COMPACTION OF SUBGRADE SHALL BE 95% MIN.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER COUNTY OF RIVERSIDE ALAN LANC ENGINEER PSTER coll 11/30/22 **ALLEY AND** DIRECTOR OF TRANSPORTATION DATE C48048 **ALLEY APRON SECTIONS** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN CIVI STANDARD No. 500









CHANNELS OF MANHOLE BOTTOMS TO BE FORMED IN CONCRETE, AND SIDE INLETS TO HAVE CHANNELS CURVED IN THE DIRECTION OF FLOW.

NOT TO SCALE

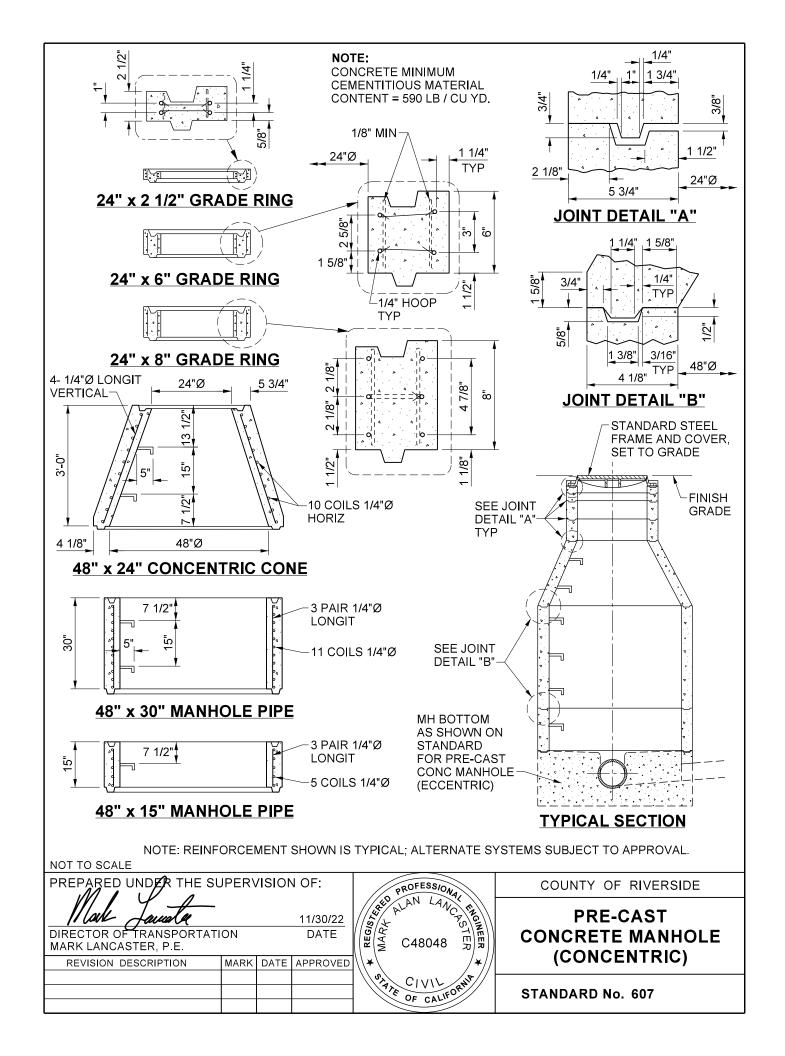
REVISION DESCRIPTION MARK DATE APPROVED

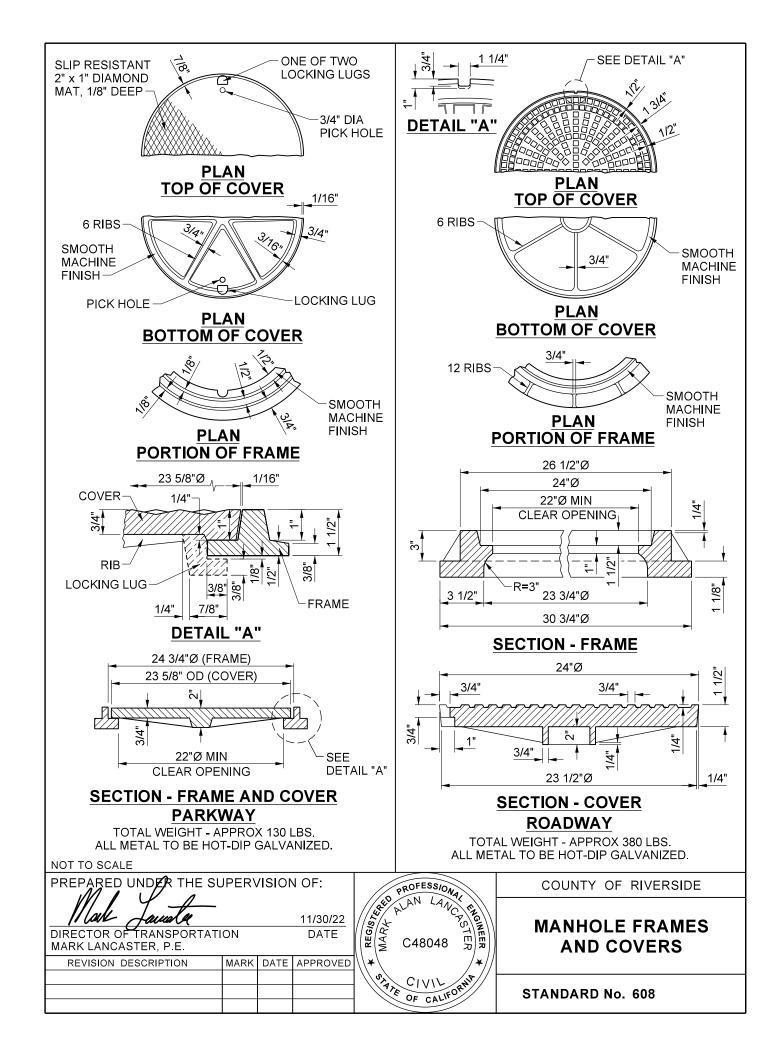


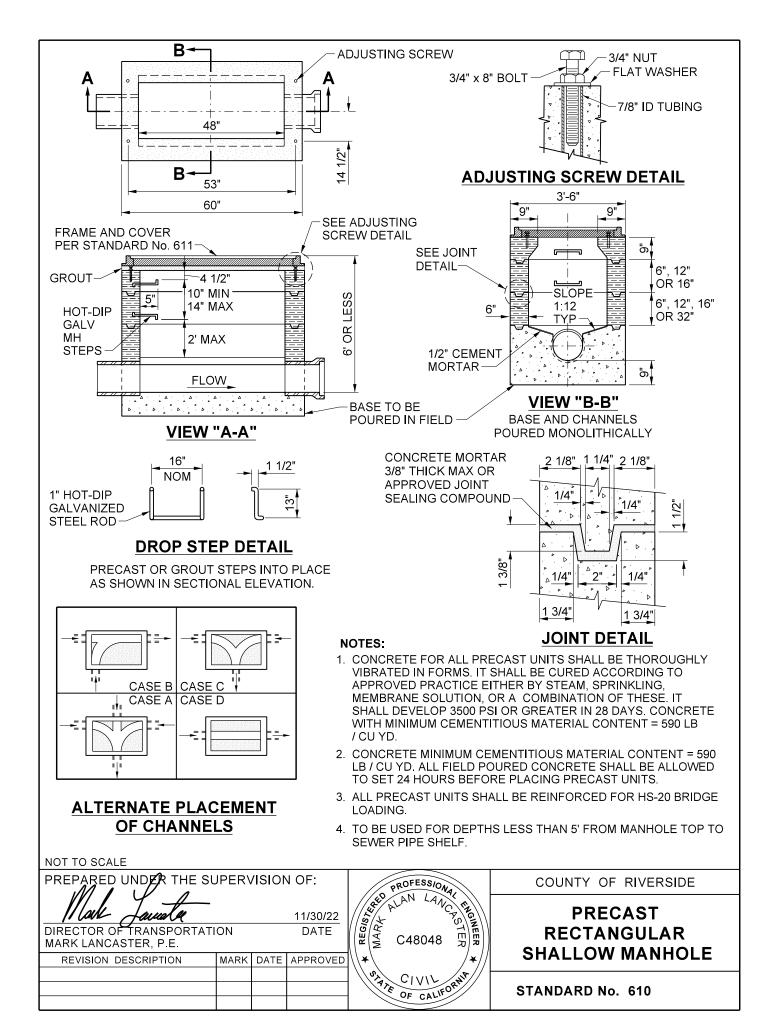
COUNTY OF RIVERSIDE

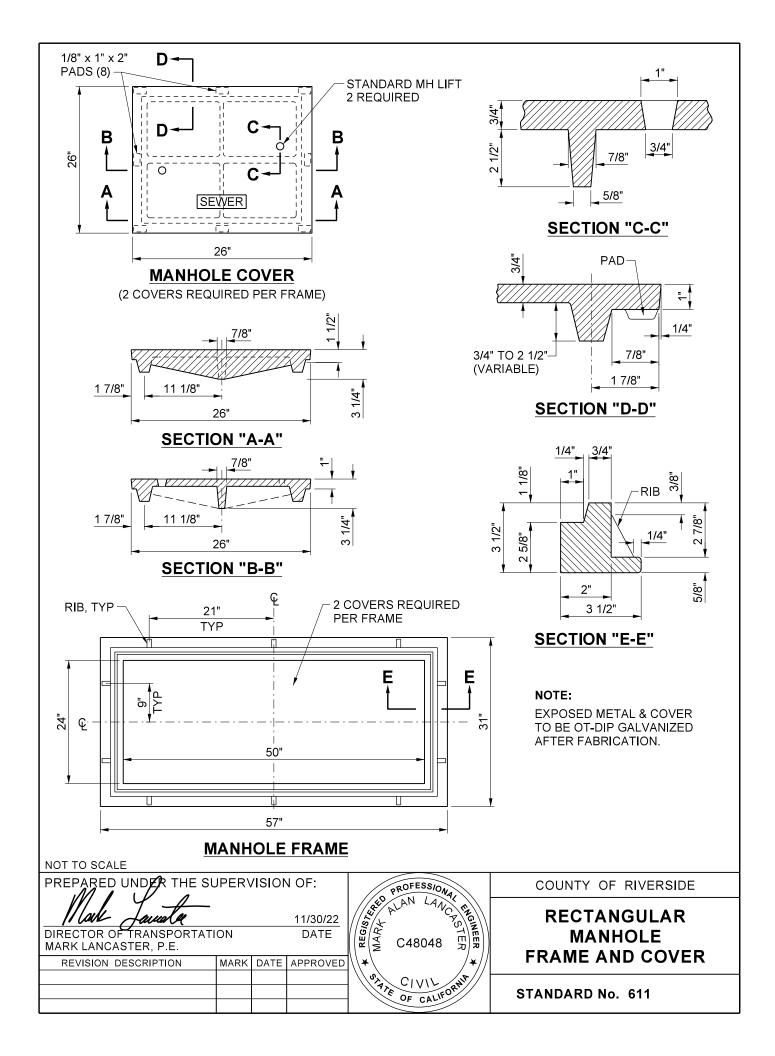
PRE-CAST CONCRETE MANHOLE (ECCENTRIC)

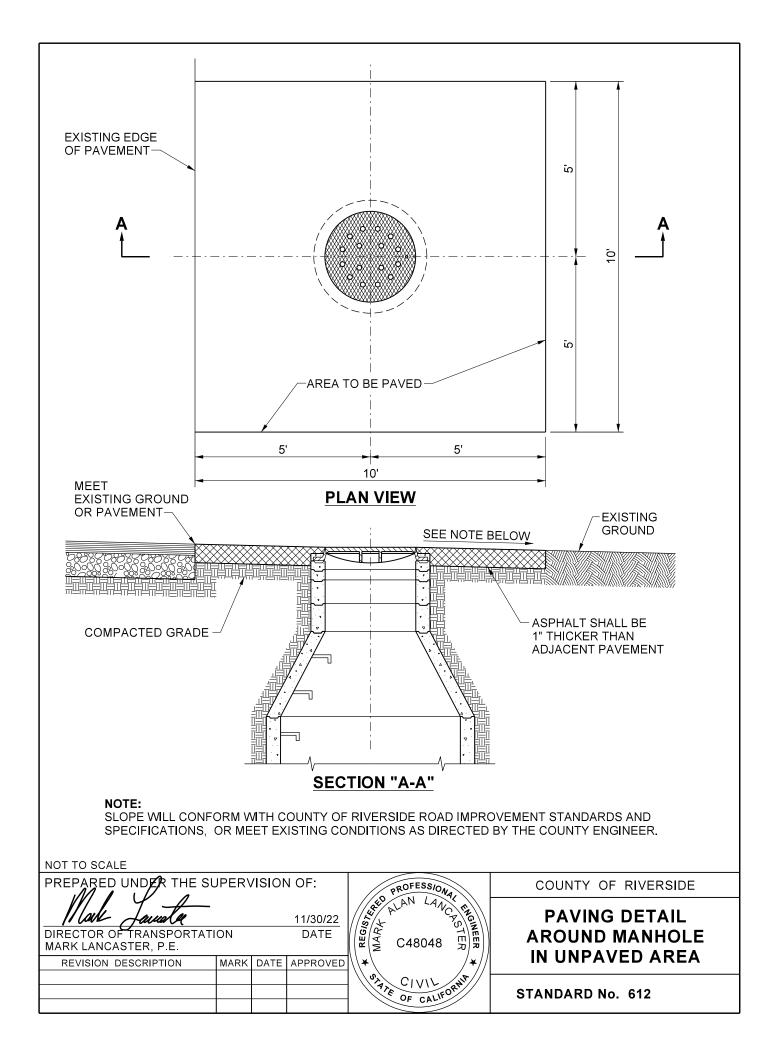
STANDARD No. 606

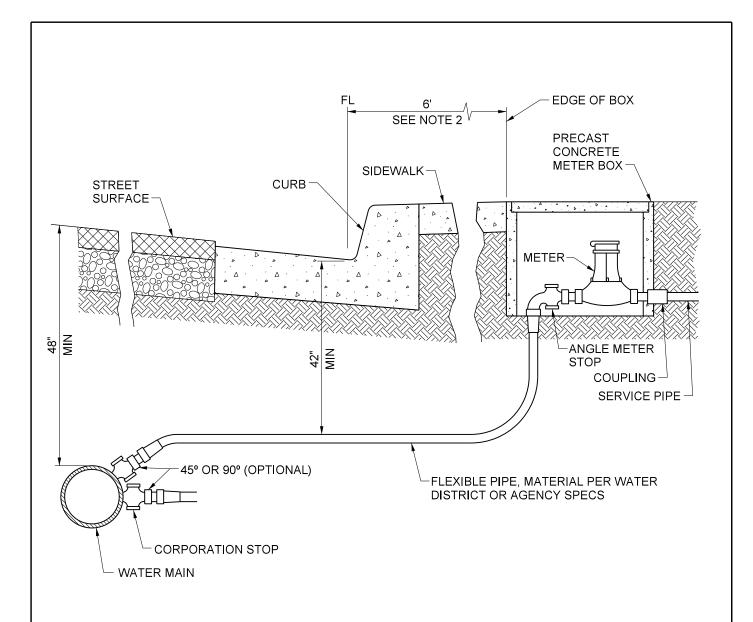




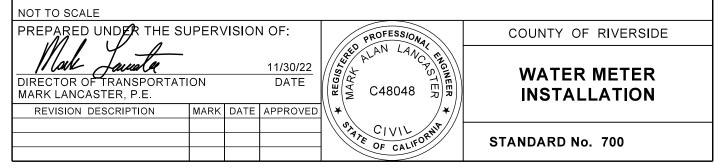


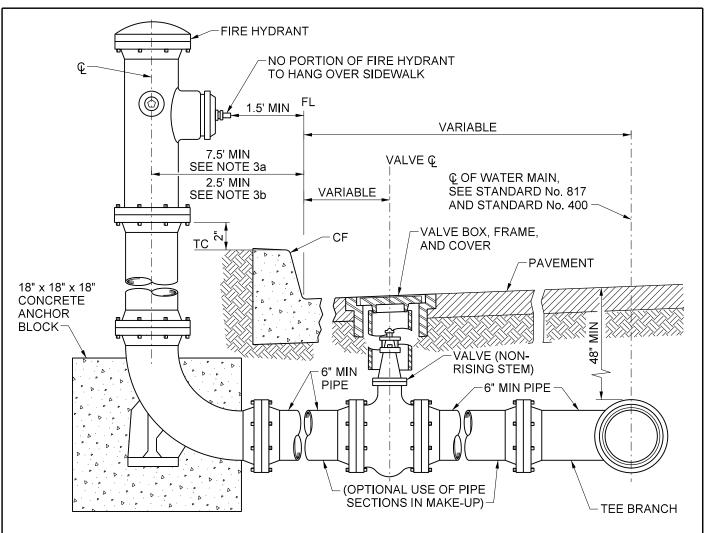






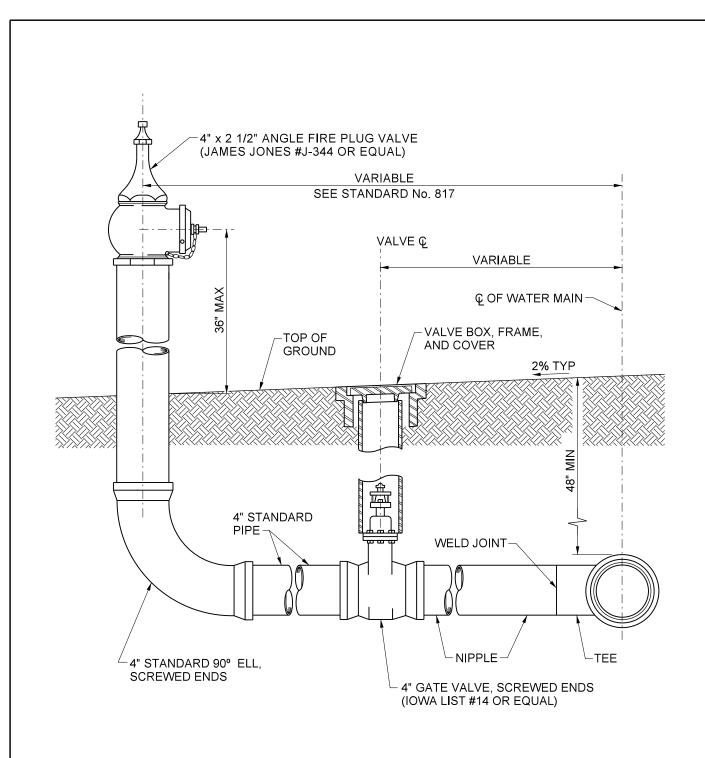
- 1. ALL LOT SERVICE LATERALS TO BE INSTALLED PRIOR TO PAVING OF STREET, INCLUDING FIRE SPRINKLER PREVENTION SERVICE.
- 2. 1.5' WHEN SIDEWALK IS ADJACENT TO R/W.
- 3. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.





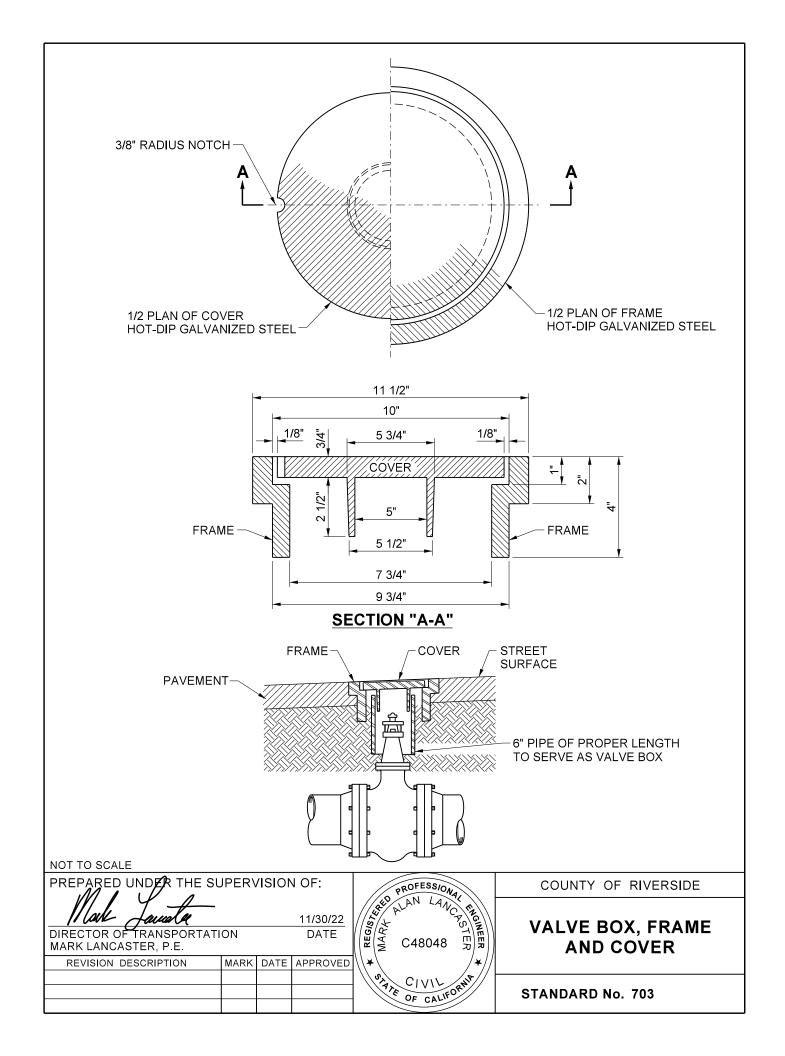
- 1. FIRE HYDRANT TO BE AS APPROVED BY SERVING AGENCY.
- 2. HYDRANTS WILL BE INSTALLED IN ACCORDANCE WITH ORDINANCE 460.
- 3. FIRE HYDRANT SHALL BE PLACED:
- a) 7.5 FEET MIN FROM CURB FLOW LINE TO THE CENTERLINE OF THE FIRE HYDRANT WHEN THE SIDEWALK IS ADJACENT TO THE CURB AND 6 FEET WIDE FROM THE CURB FLOW LINE.
- b) 2.5 FEET MIN FROM CURB FLOW LINE TO THE CENTERLINE OF THE FIRE HYDRANT WHEN THE SIDEWALK IS ADJACENT TO THE RIGHT OF WAY OR MEANDERING, AND WHEN NO SIDEWALK IS PROPOSED OR EXISTING, AND CURB AND GUTTER IS EXISTING. KEEP AN UNOBSTRUCTED DISTANCE OF 1.5 FEET FROM CURB FLOW LINE TO THE NEAREST PORTION OF THE FIRE HYDRANT.
- 4. FIRE HYDRANT SHALL NOT BE PLACED WITHIN THE CORNER CUT BACK AT ANY TIME.
- 5. FIRE HYDRANT ORIENTATION: (REV 1)
- a) SINGLE OUTLET HYDRANTS SHALL BE INSTALLED WITH THE OUTLET FACING THE CURB AND AT RIGHT ANGLES TO THE CURB.
- b) DOUBLE OUTLET HYDRANTS SHALL BE INSTALLED WITH THE OUTLETS FACING THE CURB AND AT FORTY-FIVE (45) DEGREES TO THE CURB.
- c) TRIPLE OUTLET HYDRANTS SHALL BE INSTALLED WITH THE LARGEST OUTLET FACING AT RIGHT ANGLES TO THE CURB.
- 6. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

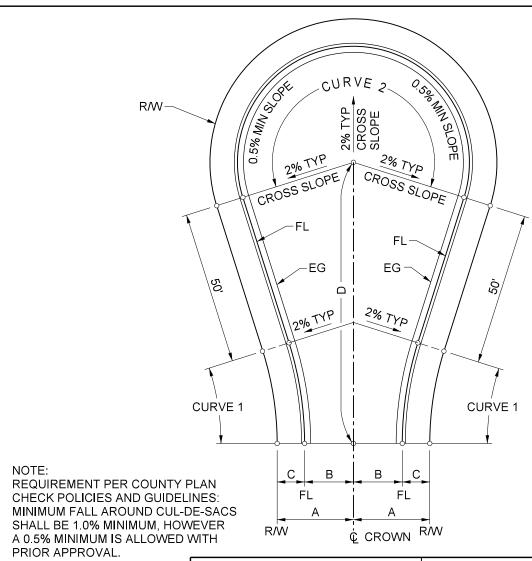
NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER SS. LANCASTE COUNTY OF RIVERSIDE ALAN ENGINEER coll 11/30/22 FIRE HYDRANT DIRECTOR OF TRANSPORTATION DATE C48048 INSTALLATION MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN CIVIL STANDARD No. 701



HYDRANTS TO BE INSTALLED IN ACCORDANCE WITH ORDINANCES 460 AND 787.4.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTERED MARK RED 1 LOUR FIRE HYDRANT 11/30/22 DIRECTOR OF TRANSPORTATION **INSTALLATION** DATE MARK LANCASTER, P.E. (ALTERNATE) REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN STANDARD No. 702

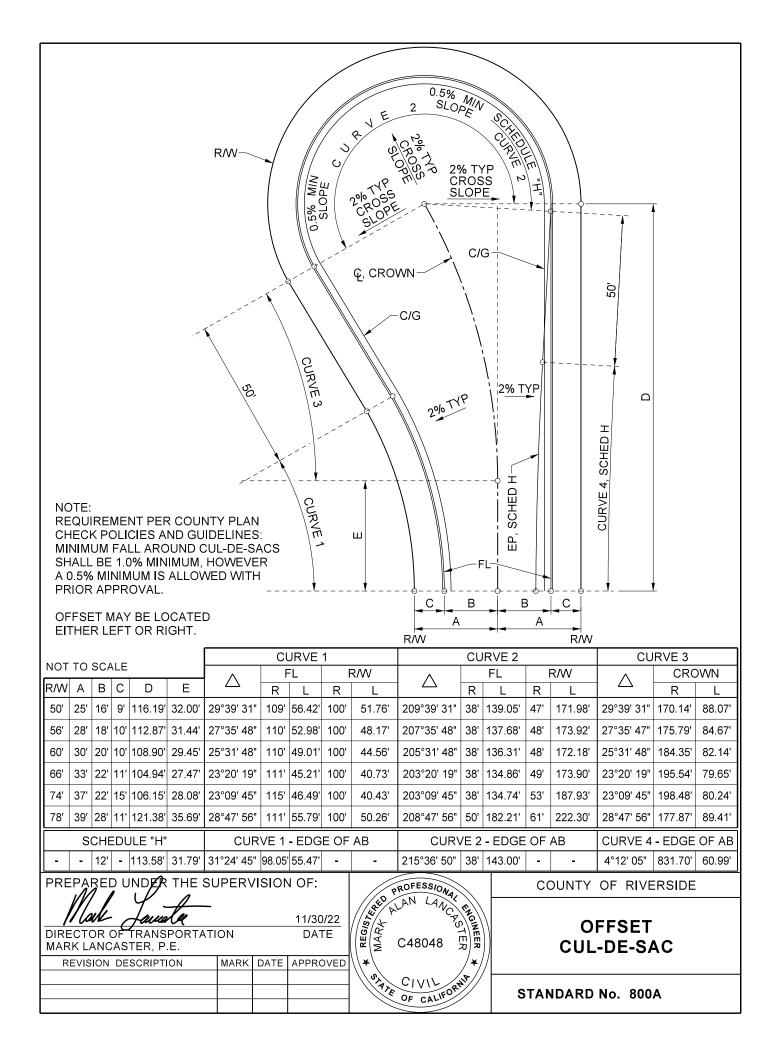


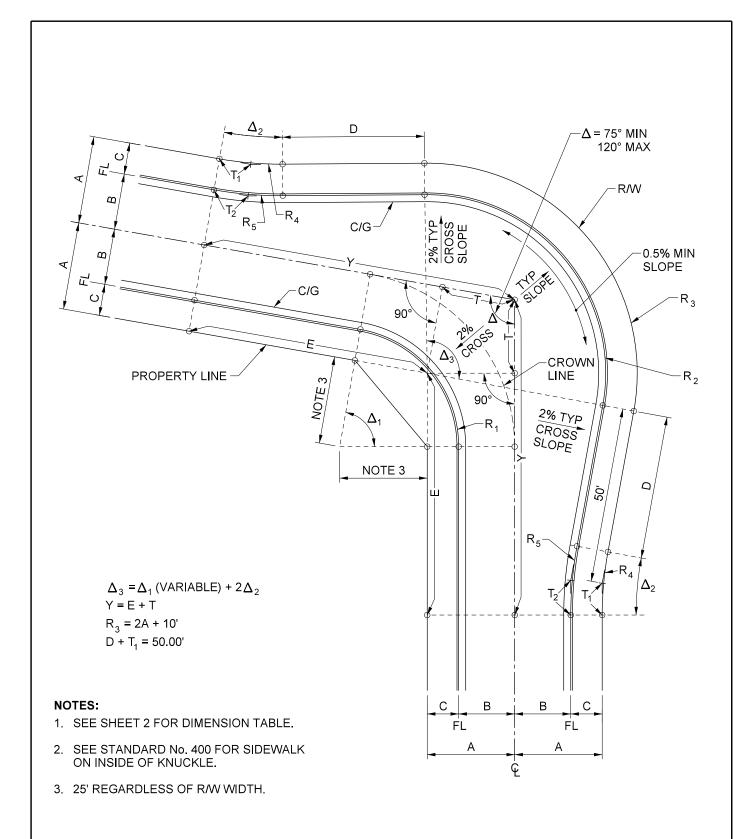


					CURVE 1						CURVE 2				
			^	∧ FL		F	R/W	^	FL		R/W				
	R/W	Α	В	С	D		R	L	R	L		R	L	ĸ	L
	50'	25'	16'	9'	92.11'	17°36' 01"	109'	33.48'	100'	30.72'	215°12' 02"	38'	142.73'	47'	176.53'
	56'	28'	18'	10'	89.55'	16°18' 41"	110'	31.31'	100'	28.47'	212°37' 22"	38'	141.02'	48'	178.12'
	60'	30'	20'	10'	86.63'	15°00' 38"	110'	28.82'	100'	26.20'	210°01' 17"	38'	139.29'	48'	175.95'
	66'	33'	22'	11'	83.74'	13°38' 40"	111'	26.44'	100'	23.82'	207°17' 21"	38'	137.48'	49'	177.28'
	74'	37'	22'	15'	84.50'	13°34' 05"	115'	27.23'	100'	23.68'	207°08' 10"	38'	137.38'	53'	191.61'
	78'	39'	28'	11'	95.39'	17°12' 31"	111'	33.33'	100'	30.03'	214°25' 02"	50'	187.11'	61'	228.28'

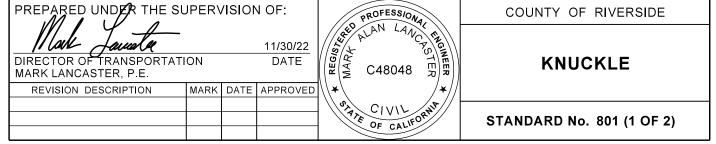
SCHEDULE "H"			CURVE 1- E	OGE OF	AGGR	EGAT	E BASE	CURVE 2- EDO	SE C	F AGGR	EGA	TE BASE			
	_	-	12'		90.00	21° 02' 30"	82.69'	30.37'	_	_	222°04' 59"	38'	147.29'	ı	_

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTERED MARK RED 1 LOUL 11/30/22 DIRECTOR OF TRANSPORTATION **CUL-DE-SAC** DATE MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN STANDARD No. 800





NOT TO SCALE



KNUCKLE DIMENSION TABLE

R/W	ROADWAY IMPROVEMENT WIDTH	А	В	С	D	E	R ₁	R ₂	R ₃	Δ_2	R ₄	T ₁	R ₅	Т2
50'	32'	25'	16'	6	40.91'	69.09'	35'	51'	60'	10°23'19"	100'	9.09'	109'	9.91'
56'	36'	28'	18'	10'	40.99'	70.00'	35'	56'	66'	10°17'48"	100'	9.01'	110'	9.91'
60'	40'	30'	20'	10'	41.04'	70.60'	35'	60'	70'	10°14'12"	100'	8.96'	110'	9.85'
66'	44'	33'	22'	11'	41.12'	71.49'	36'	65'	76'	10°08'58"	100'	8.88'	111'	9.86'
74'	44'	37'	22'	15'	41,22'	72.66'	40'	69'	84'	10°02'13"	100'	8.88'	115'	10.10'
78'	56'	39'	28'	11'	41.27'	73.23'	36'	77'	88'	9°58'58"	100'	8.73'	111'	9.69'

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

Male favole
DIRECTOR OF TRANSPORTATION

MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED



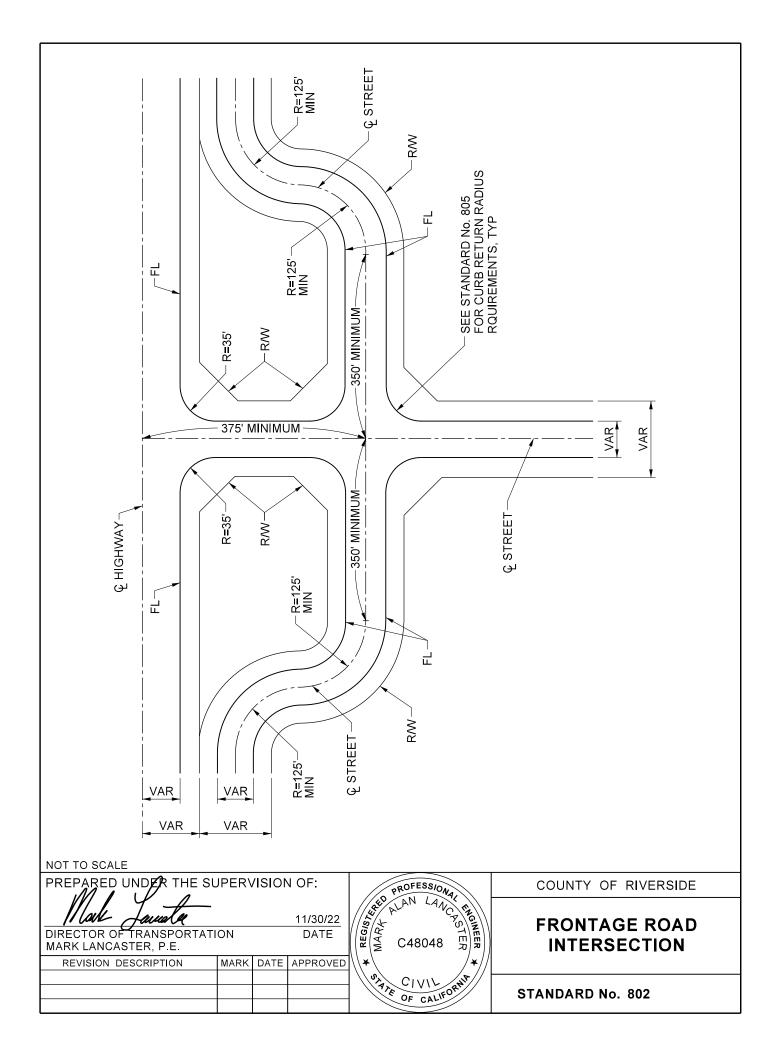
11/30/22

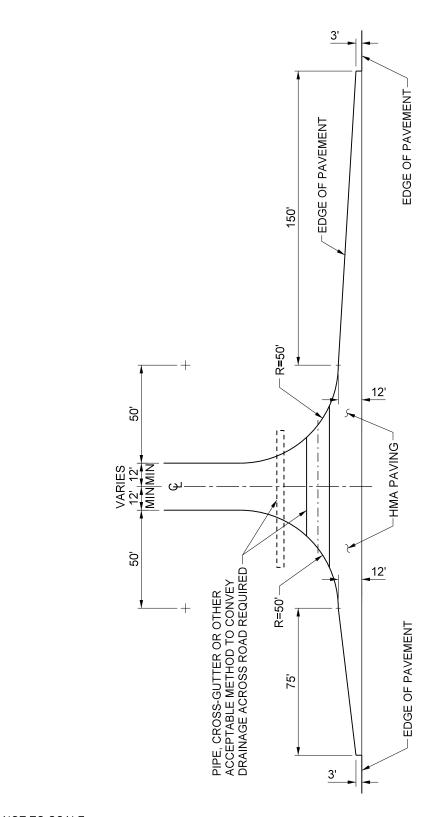
DATE

COUNTY OF RIVERSIDE

KNUCKLE

STANDARD No. 801 (2 OF 2)





NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

11/30/22 DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E. DATE

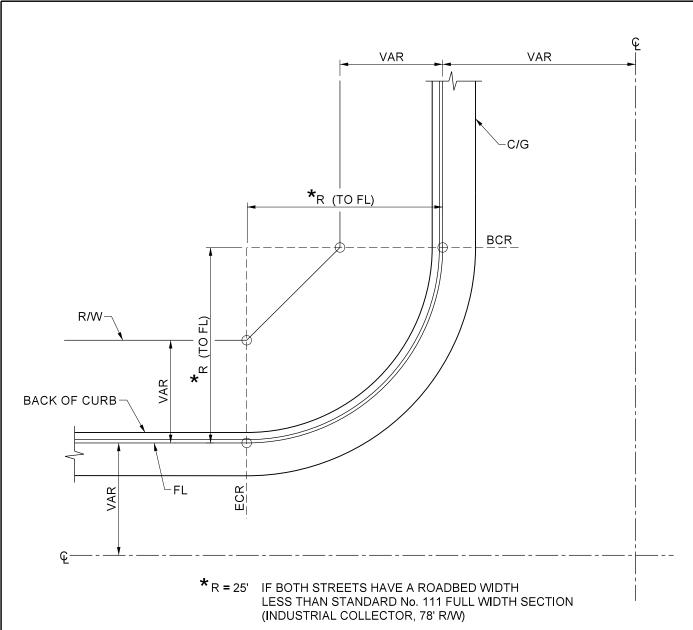
REVISION DESCRIPTION	MARK	DATE	APPROVED	//
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COUNTY OF RIVERSIDE

PRIVATE ROAD CONNECTION (RURAL AREA)

STANDARD No. 803



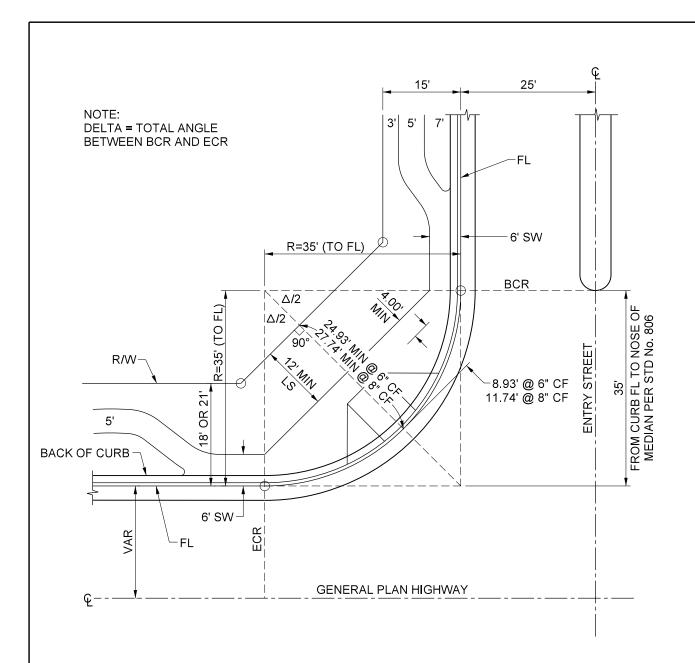
*R = 35' IF EITHER STREET HAS A ROADBED WIDTH GREATER THAN OR EQUAL TO STANDARD No. 111 FULL WIDTH SECTION (INDUSTRIAL COLLECTOR 78' R/W)

NOTES:

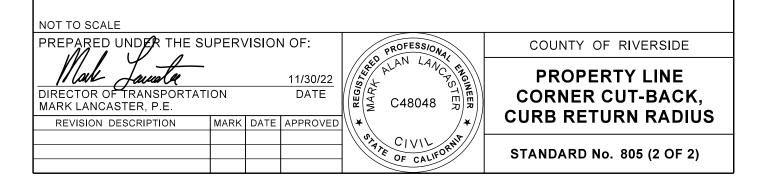
- 1. SEE SHEET 2 OF 2 FOR EXTENDED CORNER CUT BACK REQUIREMENTS FOR SCHEDULE A SUBDIVISIONS WITH ENTRY STATEMENTS PER COUNTYWIDE DESIGN GUIDELINES.
- 2. THE CORNER CUT BACK MAY NEED TO BE SET FURTHER FROM THE CURB RETURN IN ORDER TO MEET DISTANCE REQUIREMENTS FOR CURB RAMPS AND LANDINGS. SEE STD No. 403 CASE A.

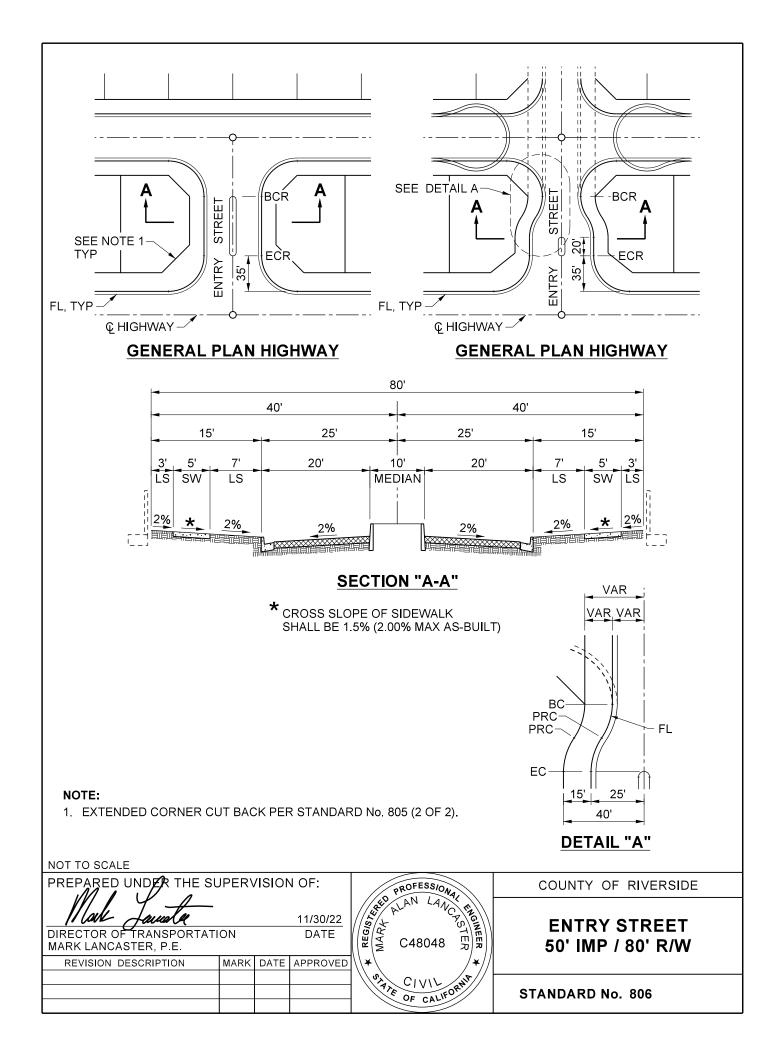
NOT TO SCALE

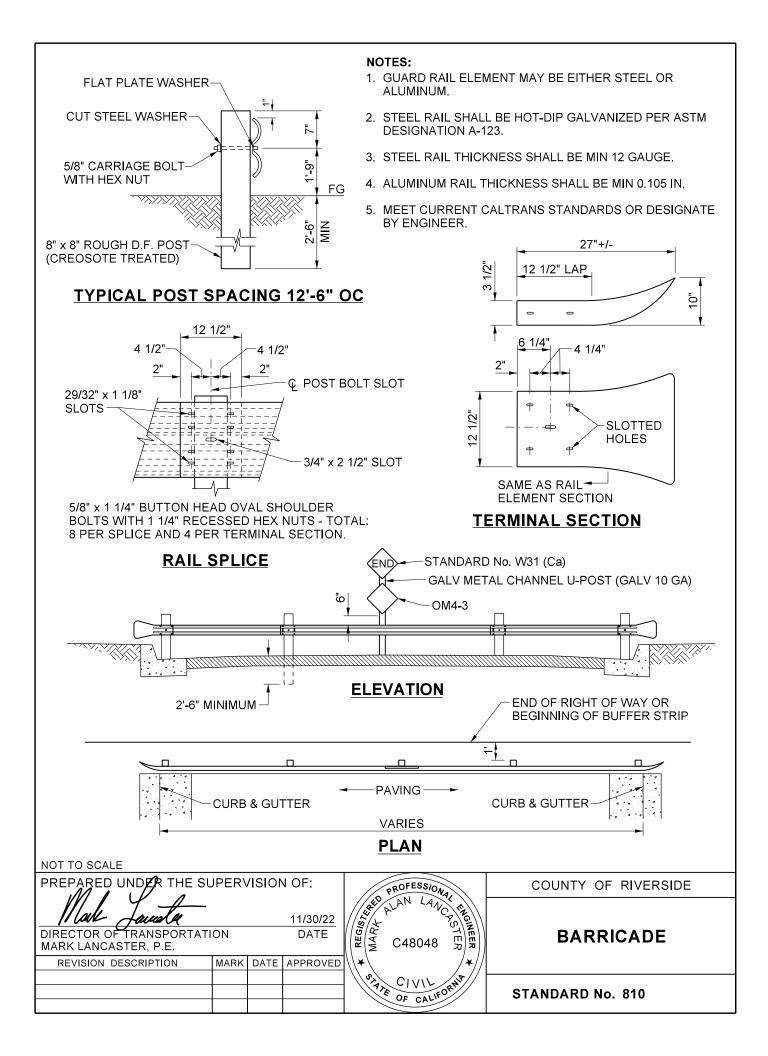
PREPARED UNDER THE SUPERVISION OF: COUNTY OF RIVERSIDE REGISTERE MARK RES ENGINEER lack PROPERTY LINE 11/30/22 DIRECTOR OF TRANSPORTATION DATE CORNER CUT-BACK, MARK LANCASTER, P.E. **CURB RETURN RADIUS** REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN **STANDARD No. 805 (1 OF 2)**

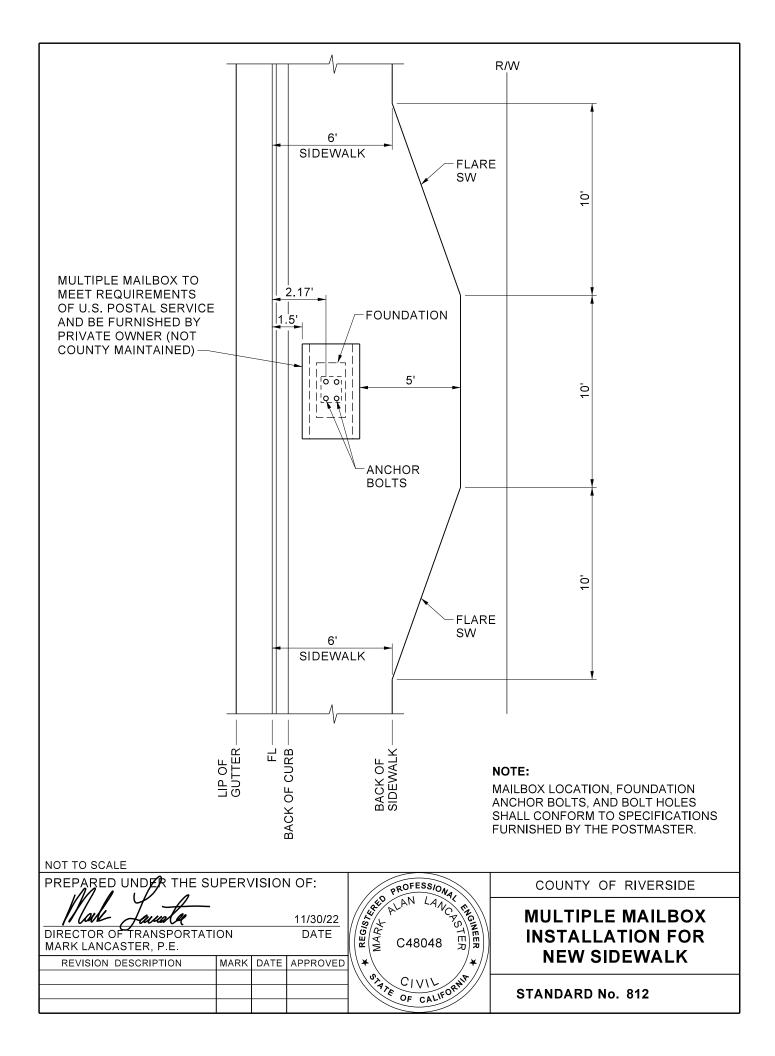


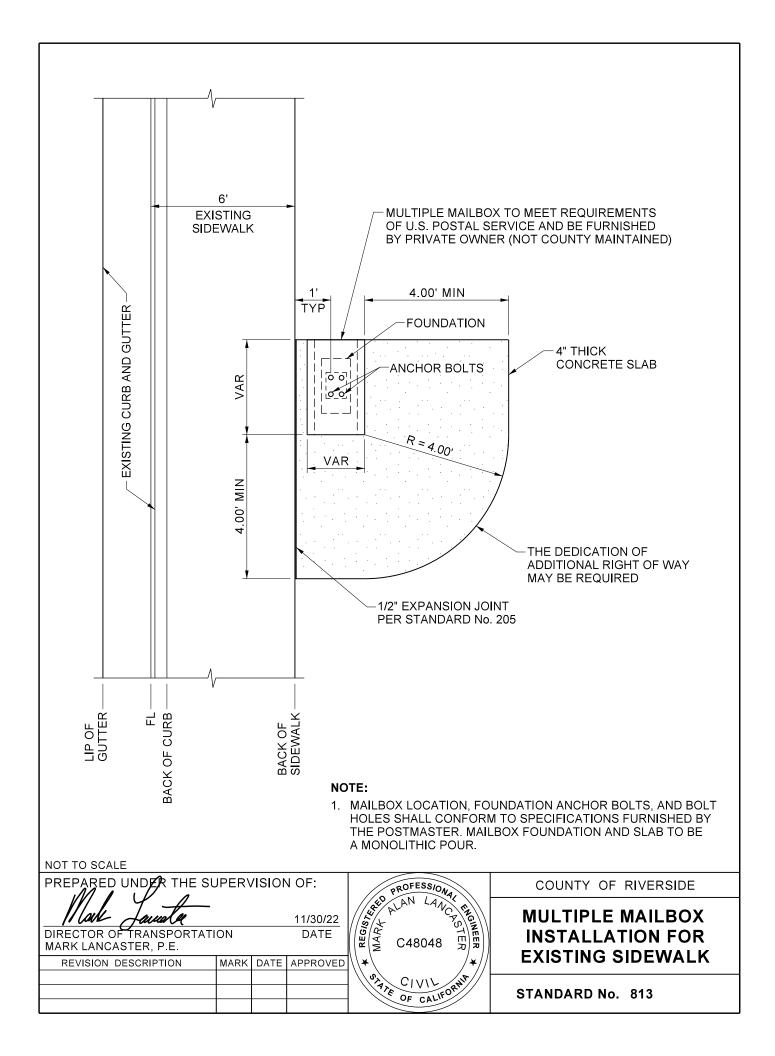
- 1. USE THIS EXTENDED CORNER CUT BACK FOR SCHEDULE A SUBDIVISIONS AT ALL INTERSECTIONS OF GENERAL PLAN HIGHWAYS CLASSIFIED AS SECONDARY HIGHWAY OR HIGHER WITH ALL DESIGNATED TRACT ENTRANCES. THE CORNER CUTBACK RIGHT OF WAY LINE WILL BE BE A MINIMUM OF 24.93 FEET WITH 6 INCH CURB FACE OR 27.74 FEET WITH 8 INCH CURB FACE FROM THE CURB FLOWLINE AS REQUIRED PER EXHIBIT C OF THE APPROVED COUNTYWIDE DESIGN GUIDELINES.
- 2. MEDIAN FOR PRIVATE ENTRY STREET SHALL BE APPROVED BY THE TRANSPORTATION DEPARTMENT.

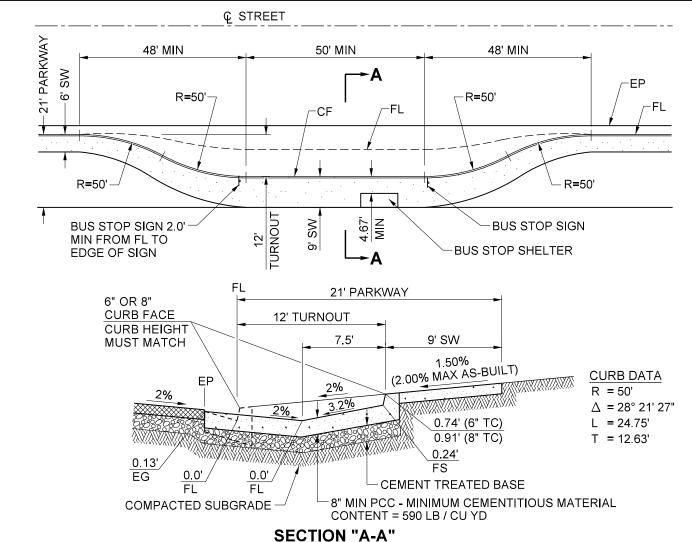




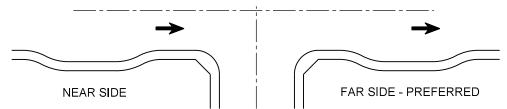




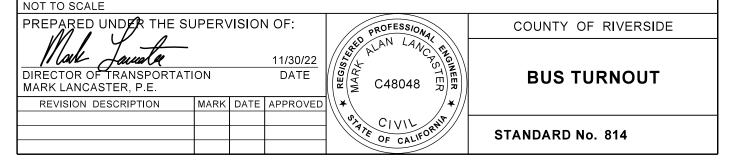


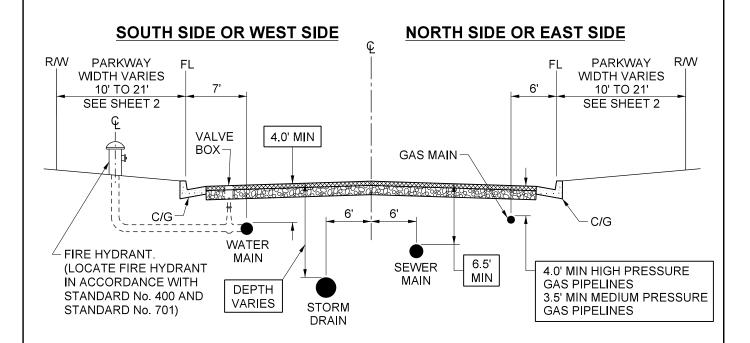


- 1. THICKNESS OF PCC AND BASE DEPENDS UPON ADT VOLUME AND SOIL TYPE. STRUCTURAL SECTION CALCULATIONS ARE REQUIRED.
- 2. LOCATION OF BUS TURNOUT SHOULD BE AS APPROVED BY THE TRANSPORTATION DEPARTMENT, AND IN CONSULTATION WITH THE APPROPRIATE TRANSIT AGENCY.
- 3. FAR SIDE BUS TURNOUT IS THE PREFERRED LOCATION:



4. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.



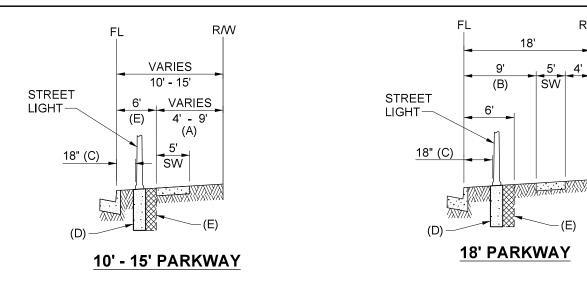


1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER, AND SHOWN ON ANY PLANS SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR APPROVAL.

TYPICAL SECTION

- 2. CHANGES MAY BE PERMITTED BY THE DIRECTOR OF TRANSPORTATION IN CASES OF CONFLICTING FACILITIES.
- 3. CONFLICTS BETWEEN UTILITY COMPANY FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.
- 4. ABOVE-GROUND FACILITIES SHALL BE LOCATED BEHIND SIDEWALK WHEN SIDEWALK IS ADJACENT TO CURB.
- 5. FOR TREE INSTALLATION ON LOCAL STREETS, TREES SHALL BE LOCATED 2 FEET CLEAR OUTSIDE OF R/W WHEN SIDEWALK IS ADJACENT TO CURB.
- 6. ALL UTILITIES UNDER PAVEMENT OR CURB & GUTTER SHALL BE A MINIMUM OF 3.5' BELOW THE FINISHED GRADE OF THE STREET.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER COUNTY OF RIVERSIDE coll 11/30/22 **UNDERGROUND** NEER DIRECTOR OF TRANSPORTATION DATE C48048 **UTILITY LOCATIONS** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN **STANDARD No. 817 (1 OF 2)**

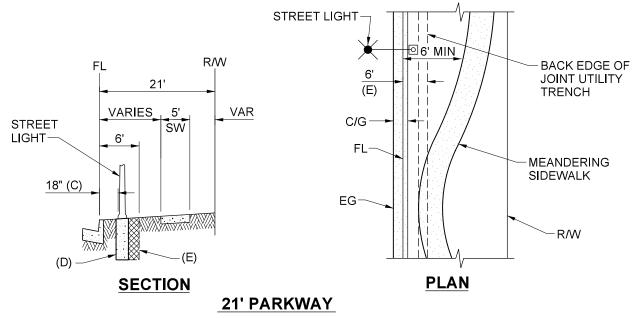


R/W

18'

SW

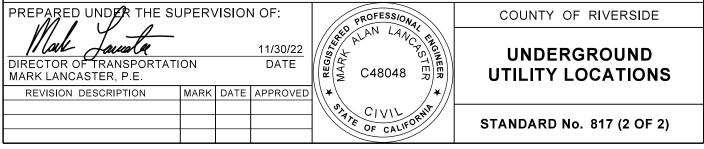
-(E)

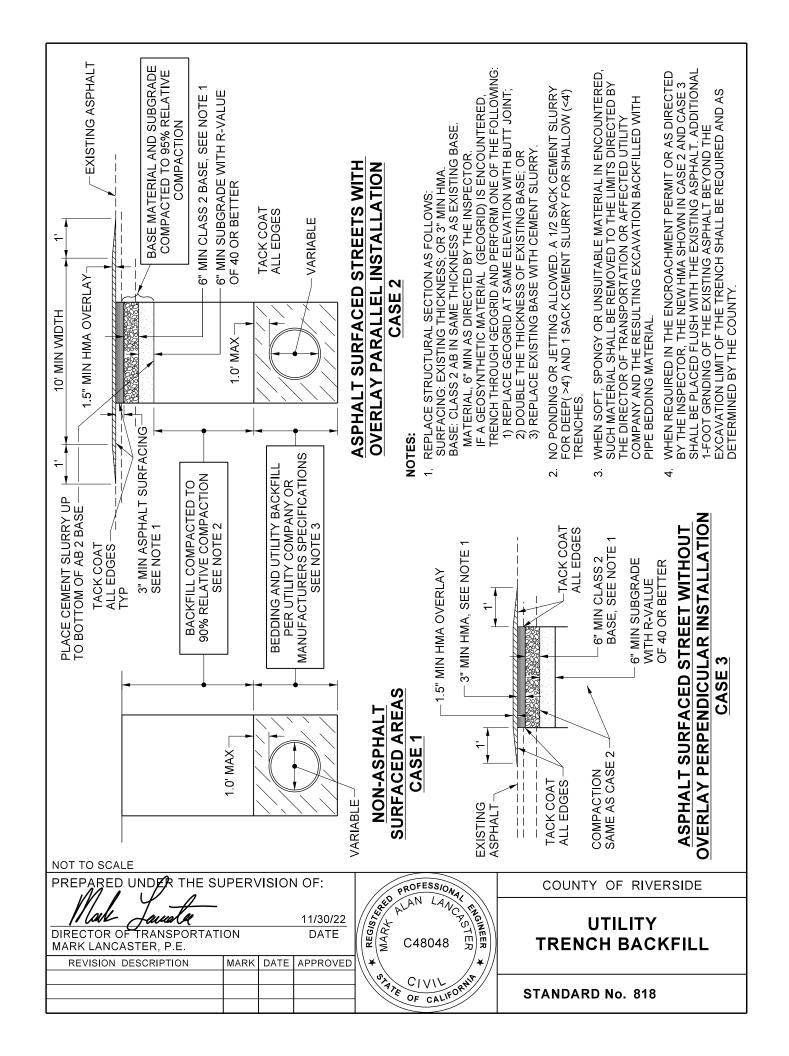


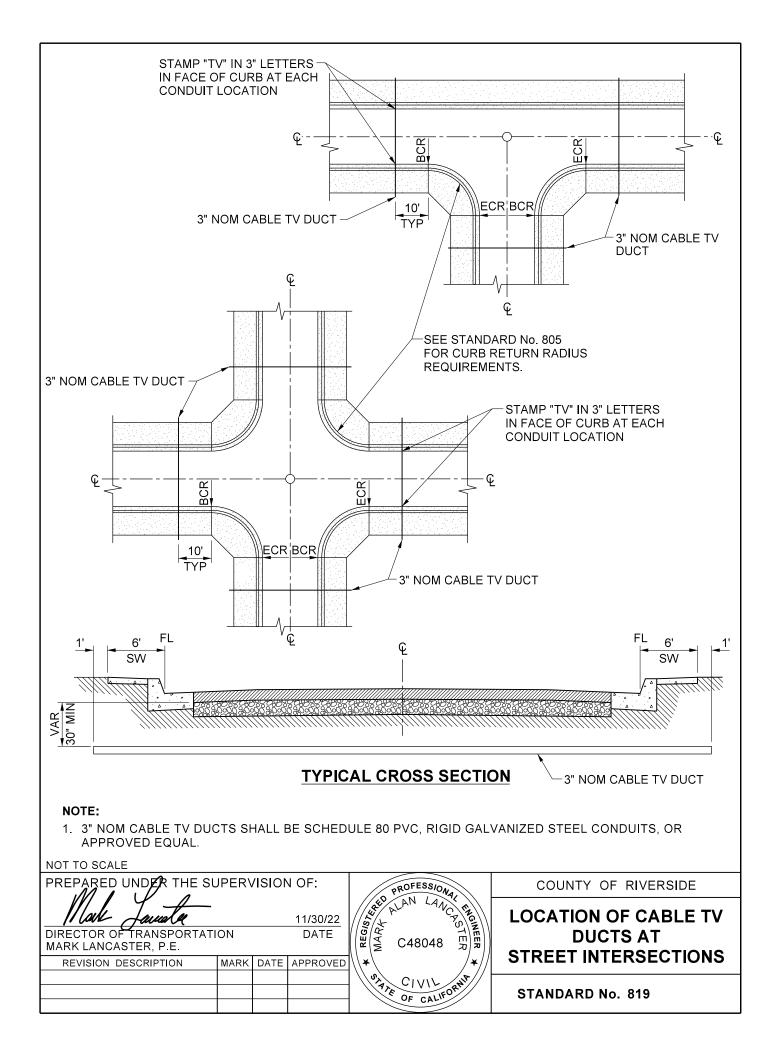
NOTES:

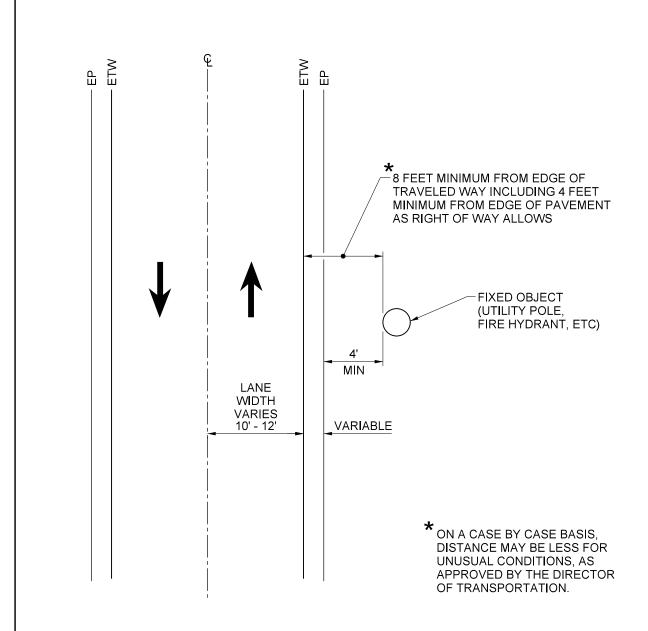
- (A) SIDEWALK LOCATION VARIES.
- 9 FEET FROM FLOWLINE TO FRONT OF SIDEWALK.
- 1.5 FEET FROM FLOWLINE TO BASE OF STREET LIGHT. SEE STANDARDS No. 1000 & 1001.
- (D) STREET LIGHT FOUNDATION: SEE STANDARD No. 1000 OR 1001 FOR RESIDENTIAL AND ARTERIAL LIGHTING DETAILS.
- 6' FROM FLOW LINE TO BACK OF JOINT UTILITY TRENCH. ADJUST TRENCH TO AVOID CONFLICTS.
- ALL UNDERGROUND UTILITIES BETWEEN CURB AND R/W SHALL BE MINIMUM OF 2.5' BELOW TOP OF CURB GRADE.

NOT TO SCALE

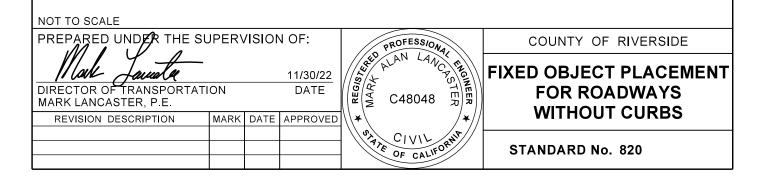


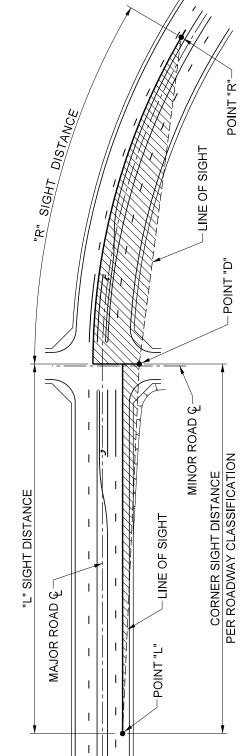






- 1. TO AVOID FUTURE RELOCATIONS, ALL INSTALLATIONS SHOULD BE MADE IN THE ULTIMATE LOCATIONS BEHIND FUTURE CURB, IN ACCORDANCE WITH STANDARDS No. 400 AND 817 IF POSSIBLE.
- 2. FOR APPLICATIONS ADJACENT TO CURB AND GUTTER USE STANDARDS No. 400 AND 817.





LEGEND

SIGHT LINE CENTERLINE OF ROADWAY

NOTES

PRIVATE STREETS²

STREETS¹

PUBLIC

SIGHT DISTANCE (FT)

DESIGN SPEED (MPH)

- CENTERLINE, 15' BACK FROM THE EDGE OF THE TRAVELED WAY OR 8' BACK FROM POINT "D" IS THE DECISION POINT, MEASURED 3' TO THE RIGHT OF MINOR ROAD THE STOP BAR WHICHEVER IS GREATER
- POINTS "L" & "R" ARE LOCATED AT THE END OF THE REQUIRED SIGHT DISTANCES MEASURED FROM POINT "D", WHERE DRIVER WITH EYE LEVEL AT 3.5' ABOVE ROAD SURFACE CAN SEE A 3.5' HEIGHT OBJECT AT POINT "L" AND "R" ď

250 300 360

385 440

8 4 4

495

125 150 200

220 275 330

322

430 500 580

550 605 660

55 55 60

9

715

65

- LINE OF SIGHT IS THE STRAIGHT LINE CONNECTING POINT "D" TO POINT "L", AND POINT "D" TO POINT "R" ന
- SIGHT DISTANCE SHALL BE MEASURED ALONG THE CENTERLINE OF THE NEAREST APPROACHING TRAFFIC LANE 4
- LIMITED USE AREA, THE AREA BOUNDED BY SIGHT LINES AND CENTERLINES OF THE NEAREST APPROACHING TRAFFIC LANES, SHALL BE SHOWN AT INTERSECTIONS ON TENTATIVE MAPS, SITE PLANS, GRADING PLANS, STREET PLANS, AND LANDSCAPE PLANS. THIS AREA SHALL BE CLEAR OF ALL OBSTRUCTIONS MORE THAN 18 INCHES SHALL HAVE MATURE HEIGHT LESS THAN 12" WITHOUT TRIMMING. HARDSCAPE ABOVE ROAD SURFACE INCLUDING VEGETATION. SELECTED PLANT MATERIAL S PREFERRED WITHIN THE LIMITED USE AREA. S
- WHEN AN INTERSECTION IS LOCATED ON A VERTICAL CURVE, A PROFILE OF THE SIGHT LINE SHALL BE PROVIDED. Ö DISTANCE SHALL BE EQUAL TO STOPPING SIGHT DISTANCE AS SHOWN ON TABLE 201.1 PER CALTRANS HIGHWAY DESIGN MANUAL INDEX 405.1(2)(C), THE MIN. CORNER SIGHT

COUNTY OF RIVERSIDE

ADD 0.2 S FOR EACH PERCENT GRADE WHEN

ADDITIONAL LANE TO BE CROSSED; AND MINOR ROAD'S APPROACH EXCEEDS 3%

2-LANE HIGHWAY, ADD 0.5 S FOR EACH

BASED ON 7.5 S GAP TIME FOR CROSSING

UPGRADE. SIGHT DISTANCE = 1.47 x DESIGN

SPEED (MPH) × GAP TIME (S)

۲.

INTERSECTION SIGHT DISTANCE

STANDARD No. 821

SUPERVISION OF	

11/30/22

DATE

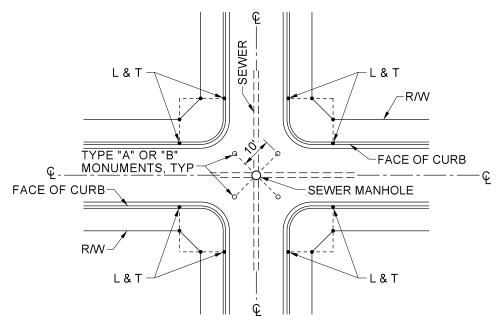
PREPARED THE

DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

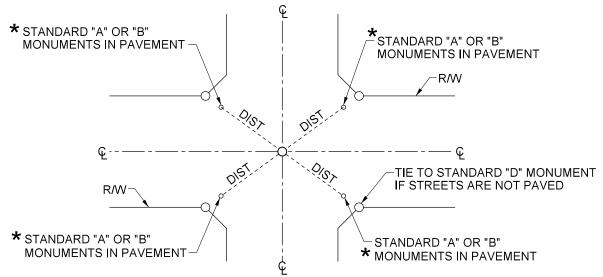
NOT TO SCALE

REVISION DESCRIPTION DATE MARK APPROVED





MONUMENTING STREET CENTERLINES WHEN SEWERS ARE LOCATED ON CENTERLINE USING 10' CROSS TIES AND/OR SWING TIES



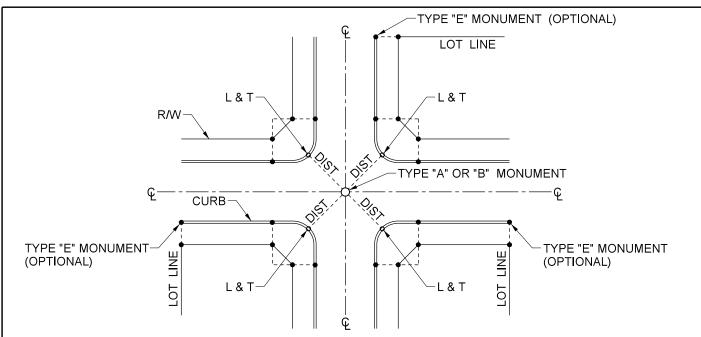
MONUMENTING STREET CENTERLINES WHERE CURBS ARE NOT REQUIRED

* SET TIE IN PAVEMENT IF R/W IS UNAVAILABLE.

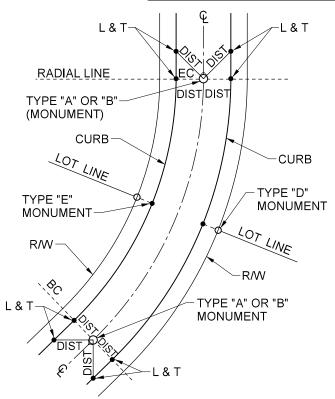
NOTES:

- 1. L & T AS SHOWN HEREON INDICATES LEAD AND TACK OR STEEL PIN MONUMENT SET IN CURB.
- 2. LEAD AND TACK OR STEEL PIN MONUMENT WITNESS TO PROPERTY CORNER MAY BE SET, NOT REQUIRED.
- 3. SEE MONUMENT SPECIFICATIONS SECTION 21 OF THIS ORDINANCE FOR TYPE "A", "D", & "E" MONUMENT DESCRIPTION AND STANDARD No. 903 FOR TYPE "B" MONUMENT DRAWING. SEE SPECIFICATIONS SECTION 21.07 OF THIS ORDINANCE FOR MONUMENT SCHEDULE.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL REGISTER COUNTY OF RIVERSIDE ENGINEER coll 11/30/22 DIRECTOR OF TRANSPORTATION DATE TIE-OUT STANDARDS C48048 MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALIFORN CIVI STANDARD No. 900



MONUMENTING STREET INTERSECTIONS WHERE CURBS AND GUTTERS ARE INSTALLED

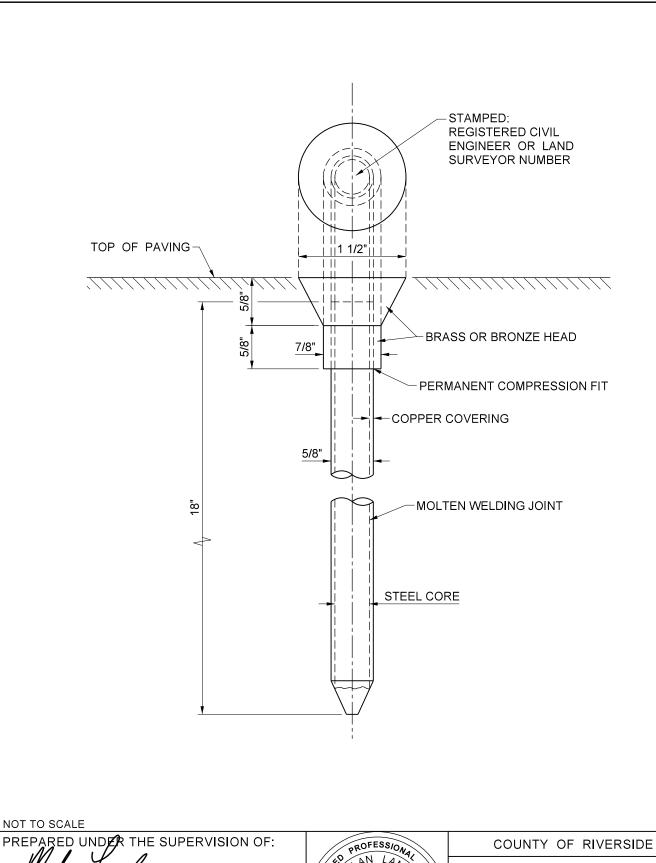


MONUMENTING BEGINNING AND ENDING OF CURVE

NOTES:

- L & T SHOWN HEREON INDICATES A LEAD AND TACK OR STEEL PIN MONUMENT SET IN CONCRETE CURB.
- 2. A METAL IDENTIFICATION DISK SET WITH A LEAD AND TAG OR STEEL PIN MONUMENT WITNESS TO PROPERTY CORNER MAY BE SET ("E" MONUMENT), IN LIEU OF SETTING FRONT LOT CORNERS ("D" MONUMENT).
- 3. THE PI OF THE CURVE CENTERLINE OF A STREET MAY BE MONUMENTED IN LIEU OF EC & BC, IF THE PI FALLS WITHIN THE TRAVELED WAY. IT SHALL BE REFERENCED WITH L & T's IN CURB.
- 4. SEE MONUMENT SPECIFICATIONS SECTION 21 OF THIS ORDINANCE FOR TYPE "A", "D", & "E" MONUMENT DESCRIPTION AND STANDARD №. 903 FOR TYPE "B" MONUMENT DRAWING. SEE SPECIFICATIONS SECTION 21.07 OF THIS ORDINANCE FOR MONUMENT SCHEDULE.
- 5. TYING OUT BC'S AND EC'S WITH 90 DEGREE TIES INTO THE TANGENT.

NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE REGISTER ALAN LANC ENGINEER lack 11/30/22 STREET CENTERLINE DIRECTOR OF TRANSPORTATION DATE C48048 **MONUMENT** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED OF CALFORN STANDARD No. 901



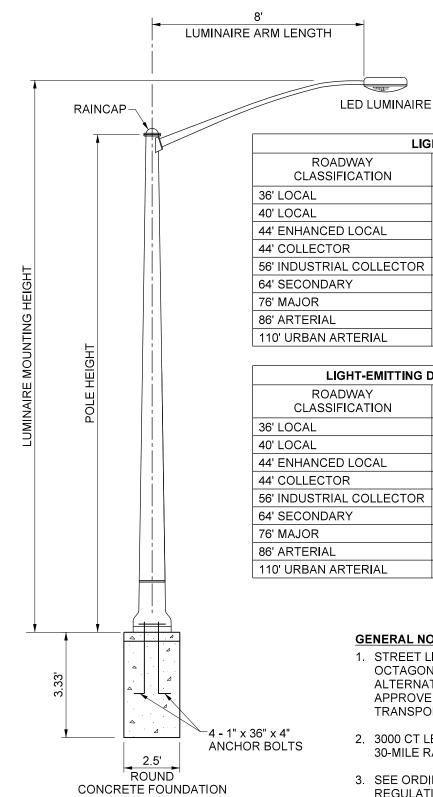
11 COUL DIRECTOR OF TRANSPORTATION 11/30/22 DATE MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED



TYPE "B" MONUMENT

STANDARD No. 903



LIGHT POLE TABLE									
ROADWAY CLASSIFICATION	POLE HEIGHT	LUMINAIRE MOUNTING HEIGHT	POLE SPACING						
36' LOCAL			900						
40' LOCAL	23' +/-	26' +/-							
44' ENHANCED LOCAL	23 +/-	20 +/-							
44' COLLECTOR									
56' INDUSTRIAL COLLECTOR	28' +/- 31' +/-		200' STAGGERED						
64' SECONDARY			STAGGERED						
76' MAJOR	31' +/-	34' +/-							
86' ARTERIAL	31 7/-	34 +/-							
110' URBAN ARTERIAL									

LIGHT-EMITTING DIODE (LED) LUMINAIRE TABLE									
ROADWAY CLASSIFICATION	HPSV EQUIVALENT 4000K CT LED	HPSV EQUIVALENT 3000K CT LED							
36' LOCAL	50 W								
40' LOCAL	70 W	50 W							
44' ENHANCED LOCAL	70 VV	30 VV							
44' COLLECTOR	100 W								
56' INDUSTRIAL COLLECTOR	150 W	100 W							
64' SECONDARY	150 00	100 VV							
76' MAJOR	250 W	150 W							
86' ARTERIAL	25U VV	150 VV							
110' URBAN ARTERIAL	310 W	200 W							

GENERAL NOTES:

- 1. STREET LIGHT POLE SHALL BE TAPERED OCTAGONAL CONCRETE POLE APPROVED BY SCE. ALTERNATE POLE TYPE/MATERIAL SHALL BE APPROVED BY SCE AND THE DIRECTOR OF TRANSPORTATION DEPARTMENT.
- 2. 3000 CT LED LUMINAIRE APPLIES TO AREA WITHIN 30-MILE RADIUS OF MT. PALOMAR.
- 3. SEE ORDINANCE 348 AND 655 ON LIGHT POLLUTION REGULATION ON PRIVATE LIGHTING.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

lack 11/30/22 DIRECTOR OF TRANSPORTATION DATE MARK LANCASTER, P.E.

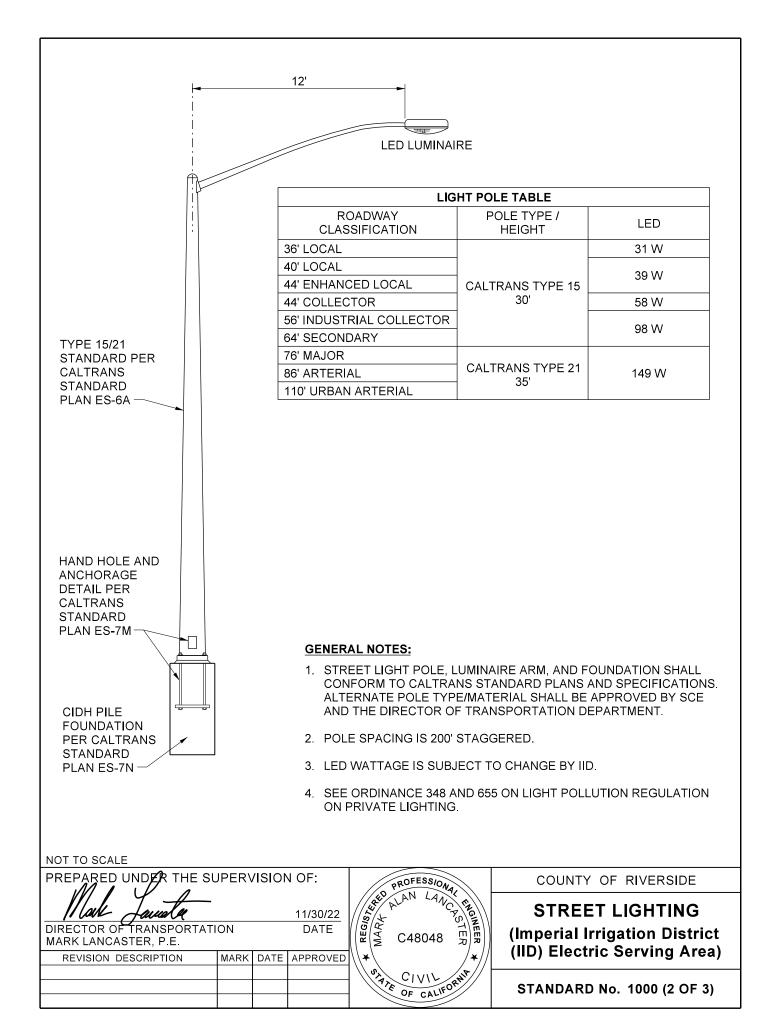
*				11
REVISION DESCRIPTION	MARK	DATE	APPROVED	//
				\

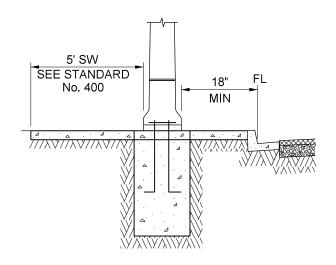


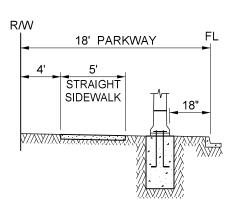
COUNTY OF RIVERSIDE

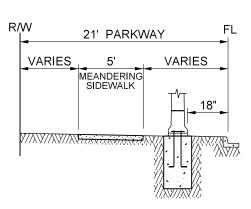
STREET LIGHTING (Southern California Edison (SCE) Electric Serving Area)

STANDARD No. 1000 (1 OF 3)







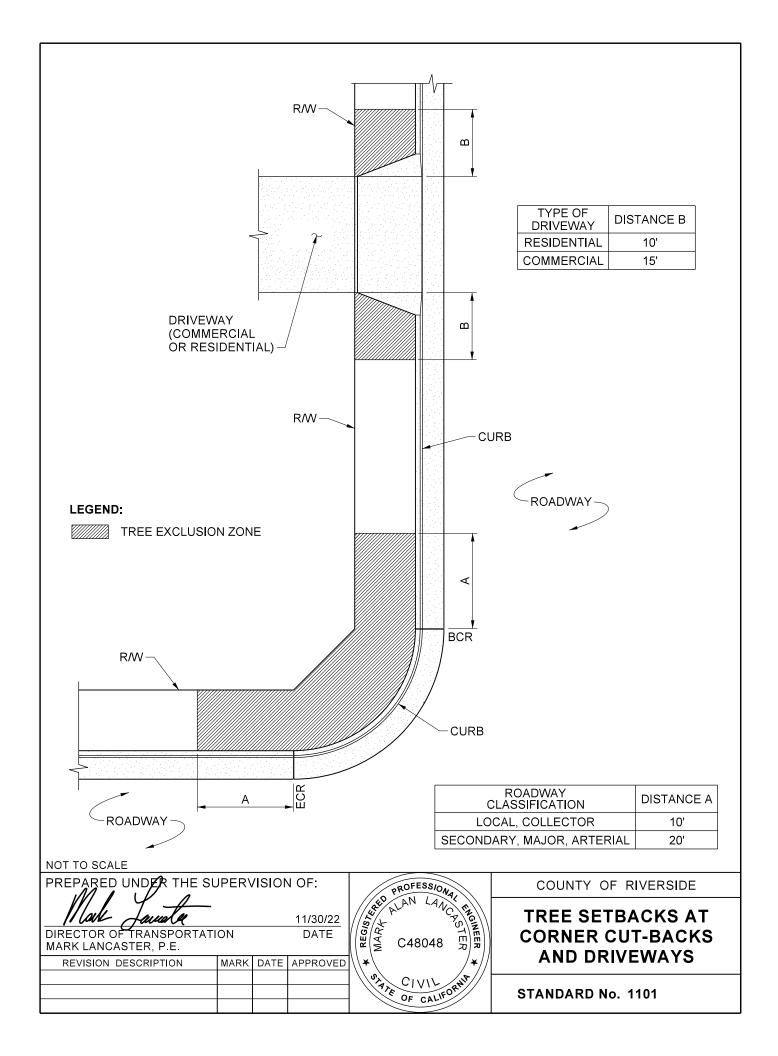


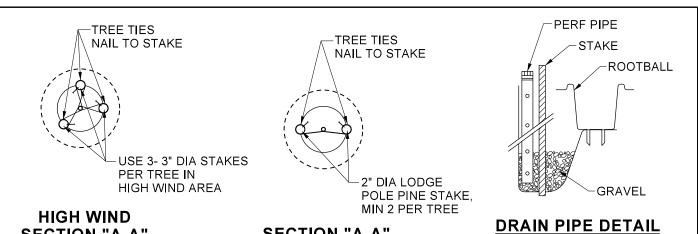
SIDEWALK SECTIONS

NOTE:

1. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS 2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS. FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.

NOT TO SCALE

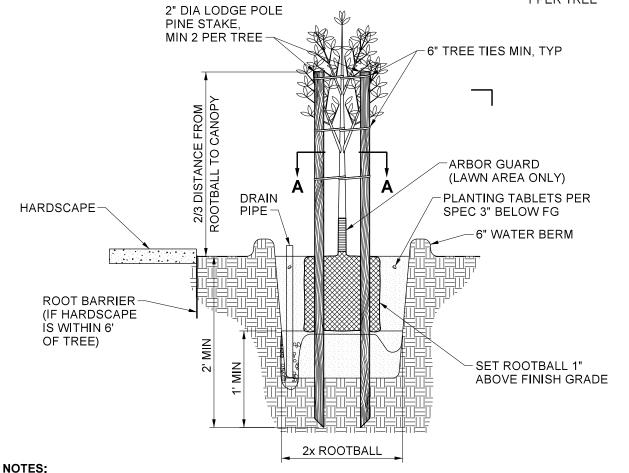




SECTION "A-A"

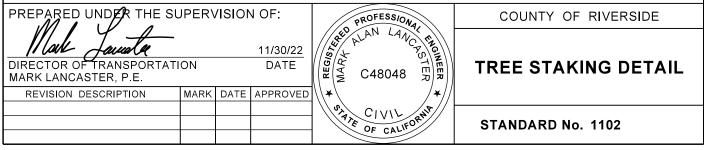
SECTION "A-A"

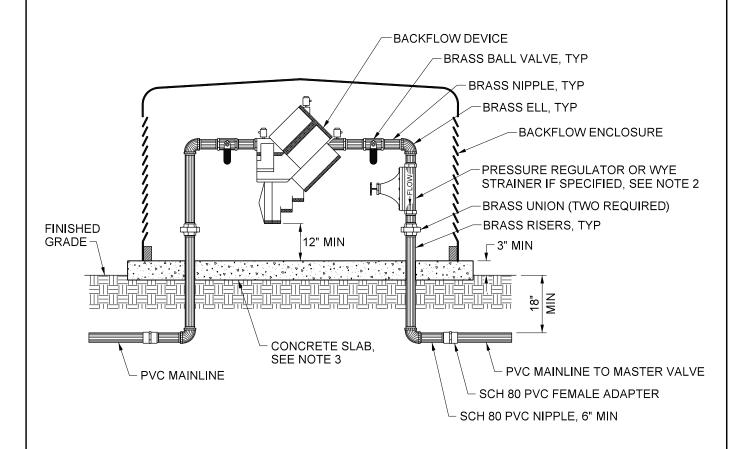
4" SCH 40 PERF PIPE 1 PER TREE



- 1. STAKE TREE PERPENDICULAR TO DIRECTION OF PREVAILING WIND.
- 2. MULTI-STEM TREES SHALL HAVE 3 STAKES
- 3. 48" BOX OR GREATER TO USE GUY WIRES.
- 4. DETAIL FOR USE IN AREAS WITHOUT SEPARATE APPROVED LANDSCAPE PLANS.

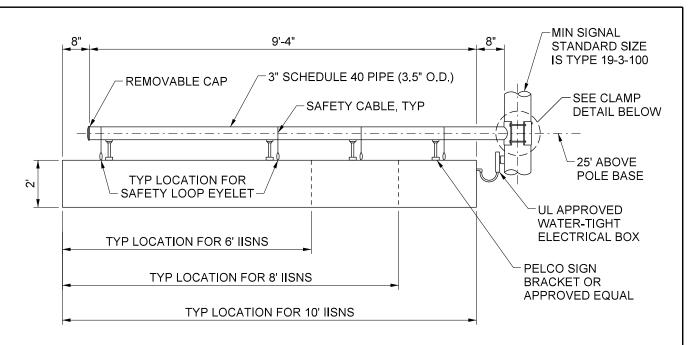
NOT TO SCALE





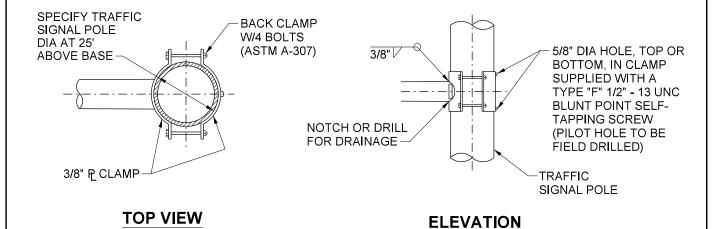
- 1. INSTALL PER LOCAL WATER DISTRICT STANDARD DETAIL.
- 2. INSTALL WYE STRAINER AND/OR PRESSURE REGULATOR IF SPECIFIED AND ALLOWED.
- 3. CONCRETE PAD LENGTH AND WIDTH SHALL BE 6" GREATER THAN SIZE OF BACKFLOW CAGE. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 505 LB / CU YD.
- 4. VIT QUICKPAD IS ALLOWED. BACKFLOW CAGE SHALL BE STAINLESS STEEL OR ALUMINUM BY VIT.
- 5. FOR USE IN AREAS WITHOUT SEPARATE APPROVED LANDSCAPE PLANS.

NOT TO SCALE											
PREPARED UNDER THE SI	JPER\	/ISIO1	N OF:	PROFESSIONAL	COUNTY OF RIVERSIDE						
DIRECTOR OF TRANSPORTAT MARK LANCASTER, P.E.	ION		11/30/22 DATE	MARA CASOS C	BACKFLOW PREVENTION DEVICE INSTALLATION						
REVISION DESCRIPTION	MARK	DATE	APPROVED	\\ * \							
				OF CALIFORNIA	STANDARD No. 1103						

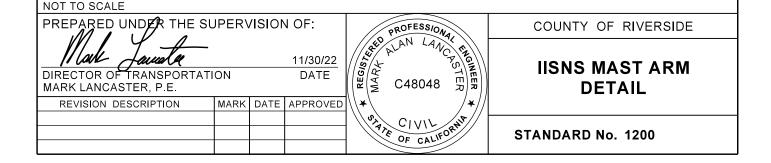


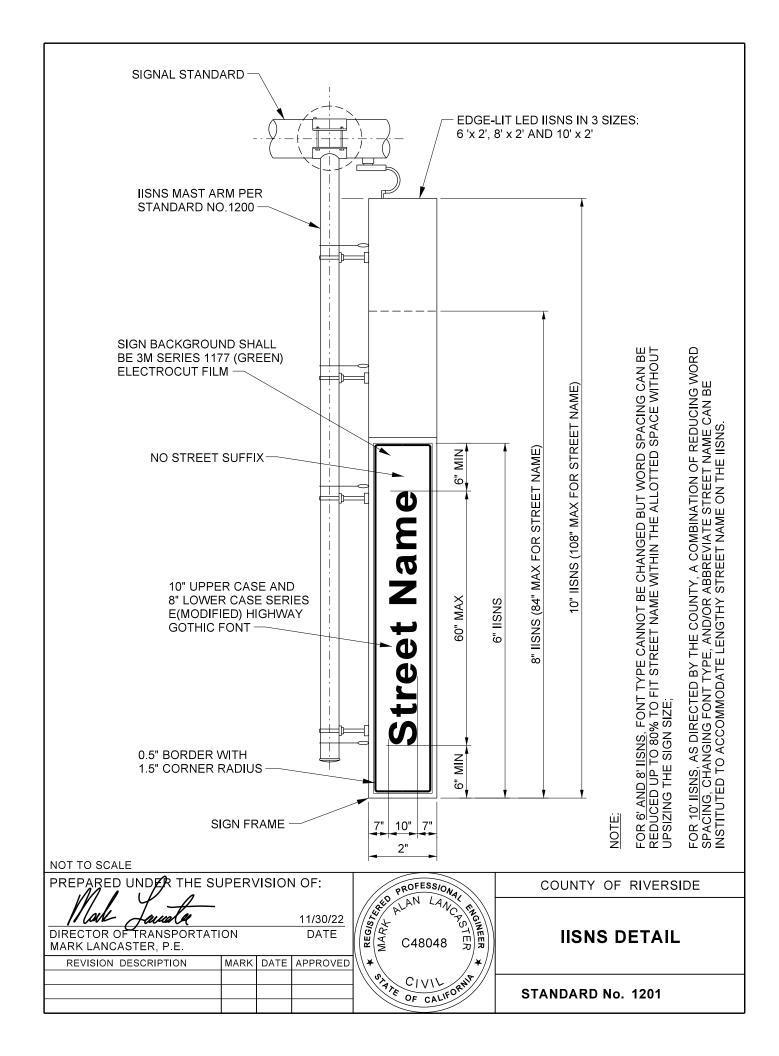
10' IISNS STRAIGHT MAST ARM MOUNTING DETAIL

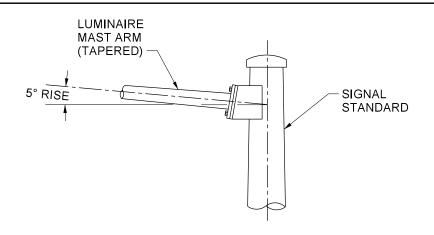
NOTE: SIGN LOCATION MAY VARY DEPENDING ON HEIGHT OF SIGNAL MAST ARM.



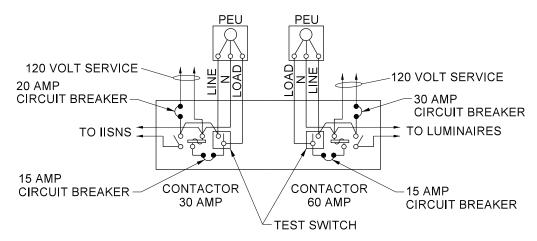
CLAMP DETAIL







STRAIGHT LUMINAIRE MAST ARM DETAIL

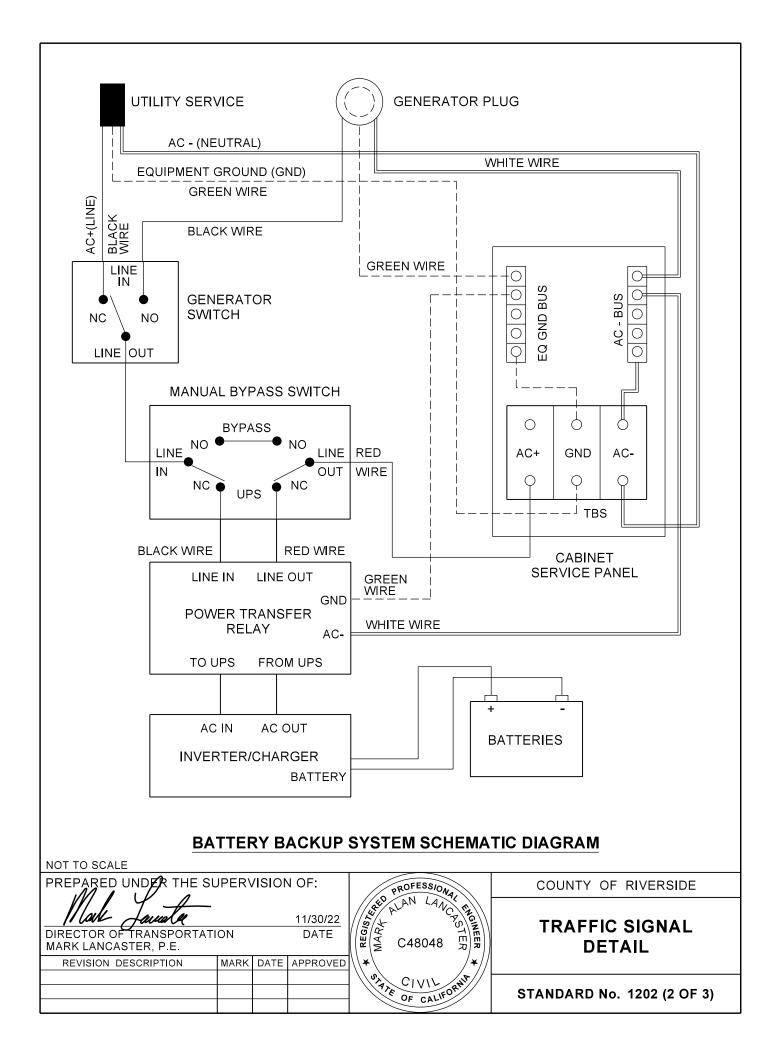


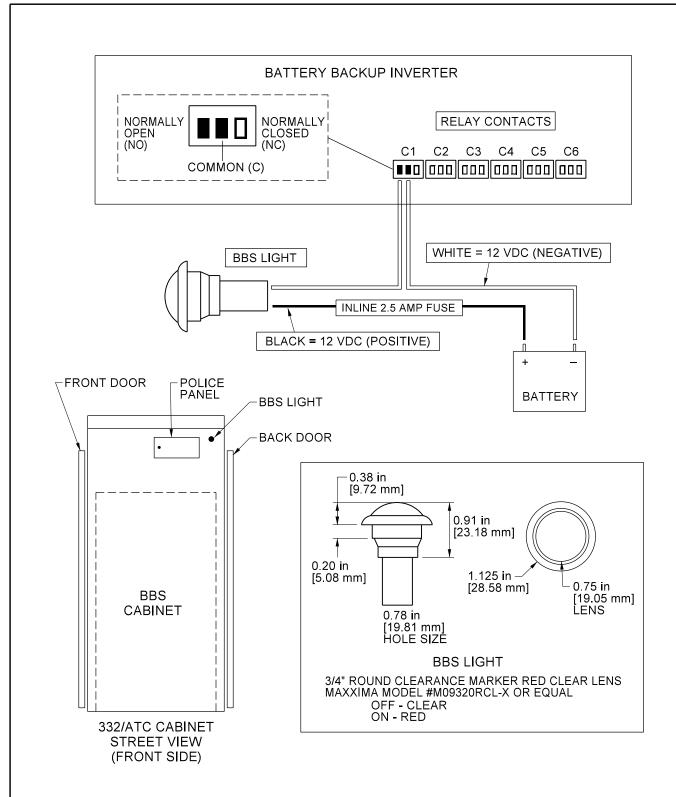
DUAL PEC WIRING DIAGRAM



MOUNTING CLAMP FOR EVP OPTICAL DETECTOR

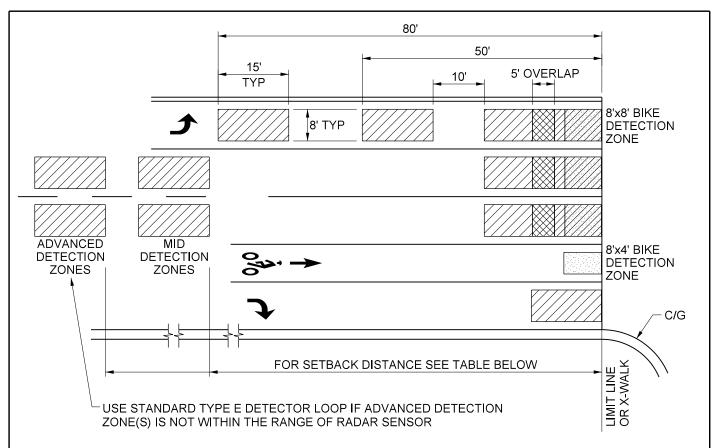
NOT TO SCALE PREPARED UNDER THE SUPERVISION OF: PROFESSIONAL COUNTY OF RIVERSIDE REGISTER TO 1 LOUR 11/30/22 TRAFFIC SIGNAL DIRECTOR OF TRANSPORTATION DATE C48048 **DETAIL** MARK LANCASTER, P.E. REVISION DESCRIPTION MARK DATE APPROVED CIVIT OF CALIFORN **STANDARD No. 1202 (1 OF 3)**



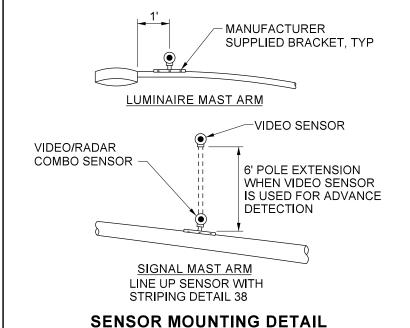


BATTERY BACKUP SYSTEM (BBS) LIGHT





VIDEO/RADAR DETECTION ZONE DETAIL



ADVANCE AND MID-DETECTION ZONES SETBACK DISTANCE FROM LIMIT LINE

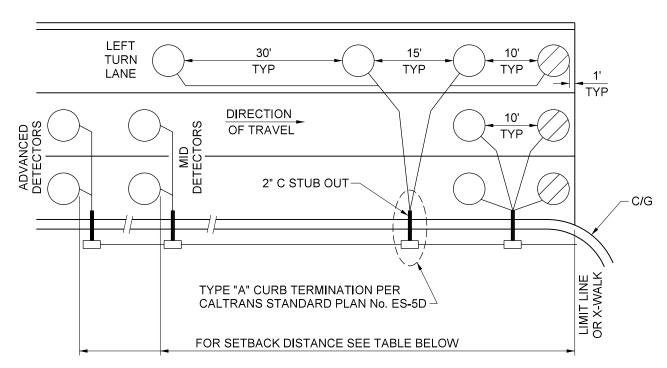
	SETBACK	
SPEED	ADVANCED	MID (FT)
25 MPH	105'	=
30 MPH	140'	-
35 MPH	185'	100'
40 MPH	230'	120'
45 MPH	285'	150'
50 MPH	345'	180'
55 MPH	405'	210'
60 MPH	475'	245'
65 MPH	550'	280'

NOT TO SCALE

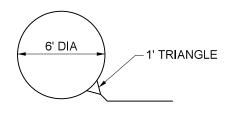


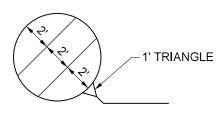
COUNTY OF RIVERSIDE

VIDEO/RADAR DETECTION DETAIL



LOOP DETECTOR PLACEMENT DETAIL





11/30/22

DATE

TYPE E (MODIFIED)

TYPE E

LOOP DETECTOR SAWCUT DETAIL

ADVANCE AND MID-DETECTION ZONES SETBACK DISTANCE FROM LIMIT LINE

	SETBACK	
SPEED	ADVANCED	MID (FT)
25 MPH	105'	-
30 MPH	140'	-
35 MPH	185'	100'
40 MPH	230'	120'
45 MPH	285'	150'
50 MPH	345'	180'
55 MPH	405'	210'
60 MPH	475'	245'
65 MPH	550'	280'

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF: lack

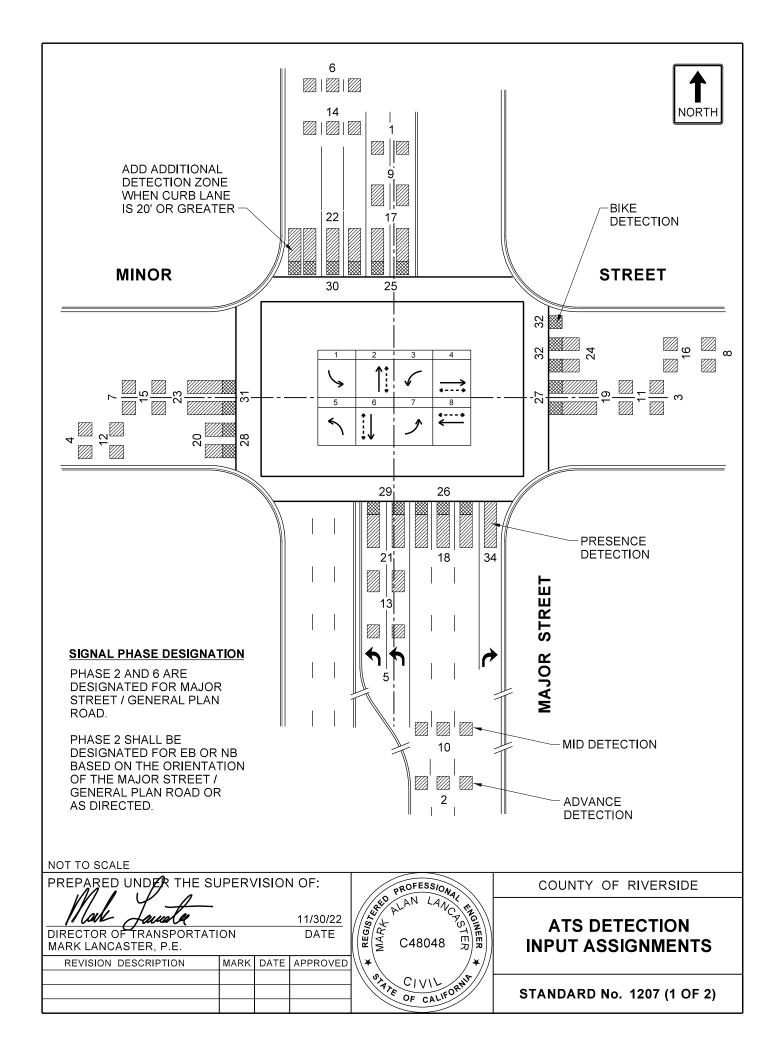
DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

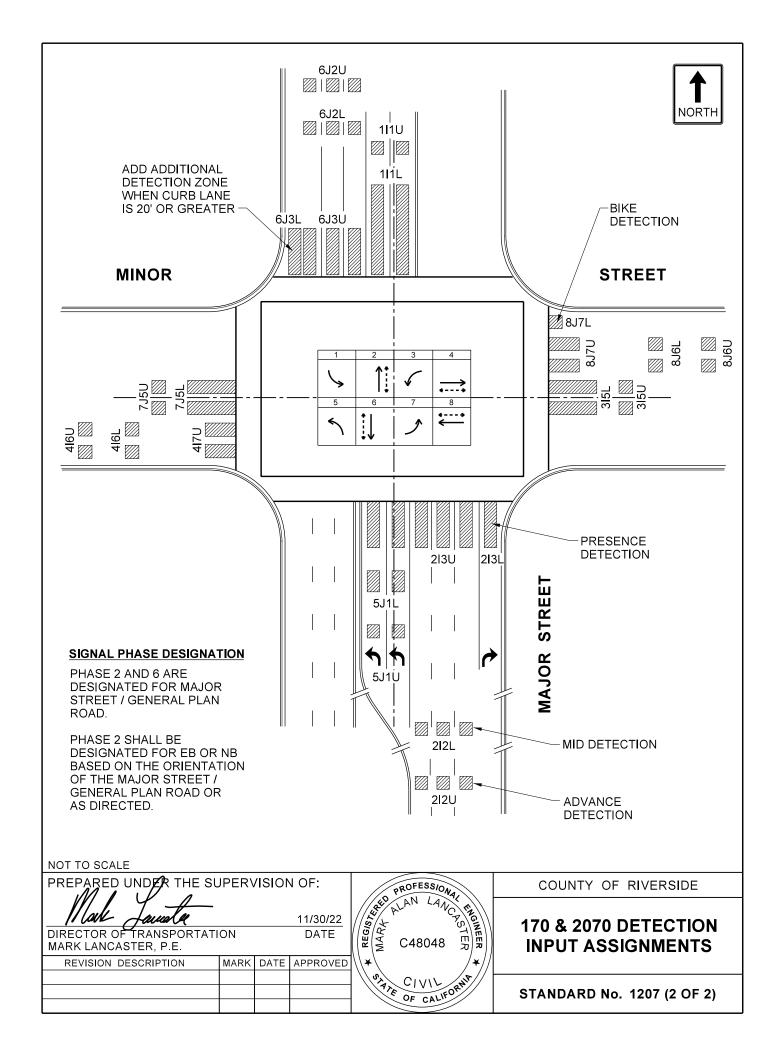
REVISION DESCRIPTION MARK DATE APPROVED

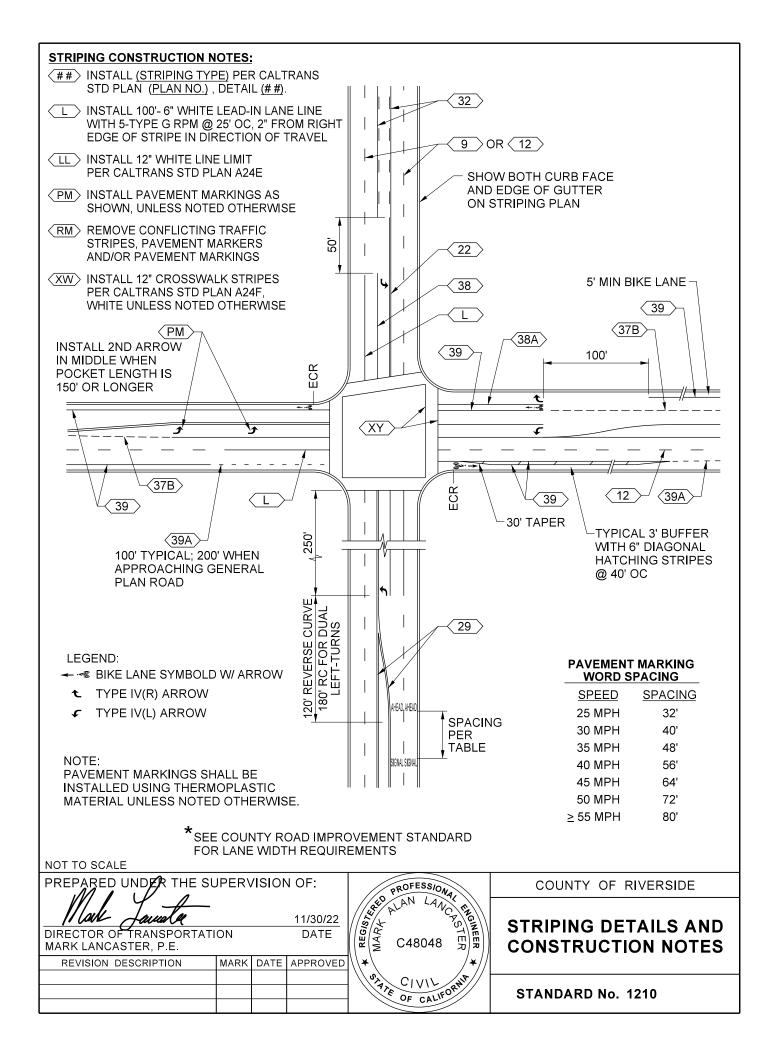


COUNTY OF RIVERSIDE

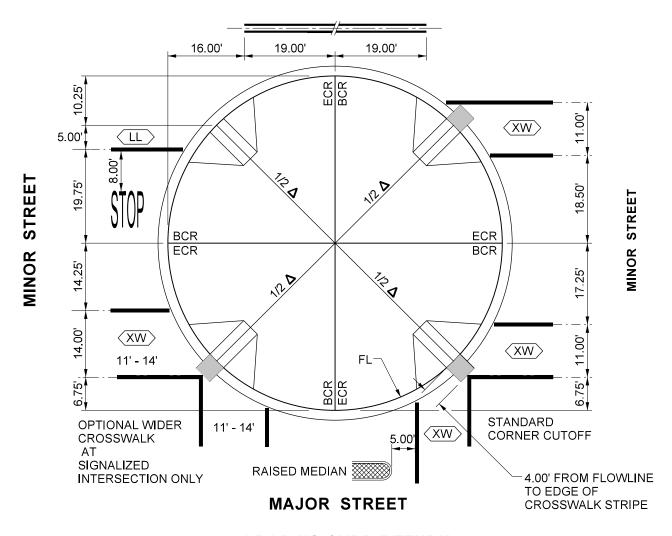
LOOP DETECTOR **DETAIL**







MAJOR STREET



35' RADIUS CURB RETURN

LEGEND:

NOT TO SCALE

MIN 4' x 4' LANDING WITHIN THE CROSSWALK

NOTES:

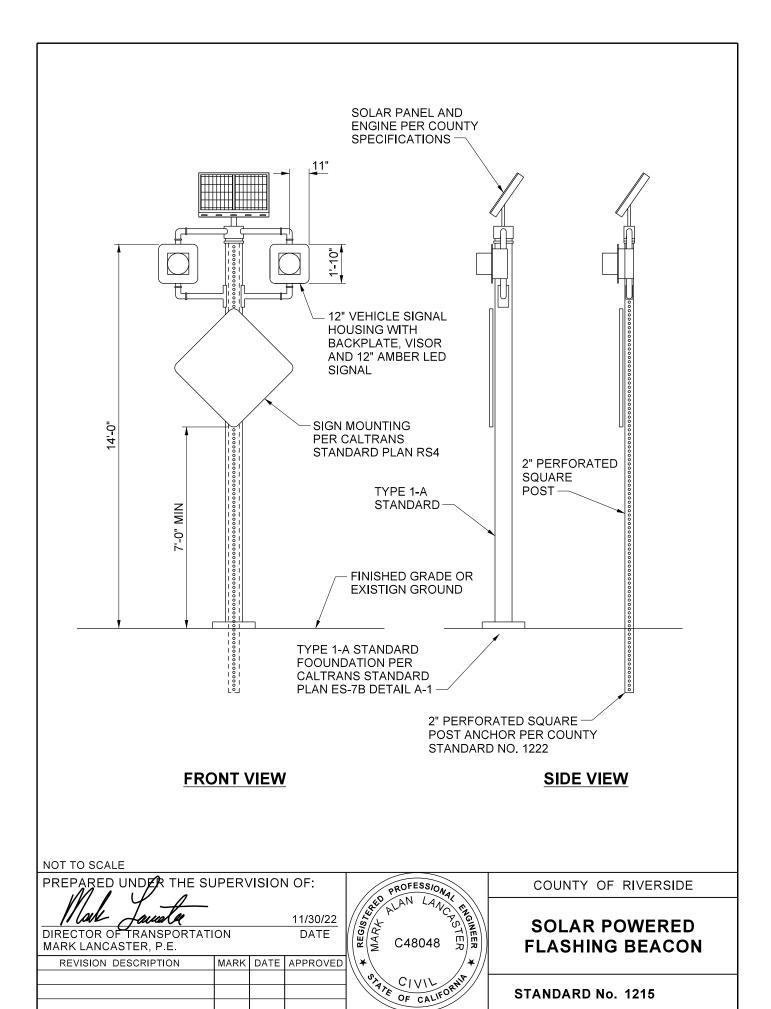
- 1. KEEP CROSSWALK AND LIMIT LINE MARKING OFF GUTTER PLATE.
- 2. PLACE 4" BLACK CONTRAST STRIPE ON BOTH SIDES OF XW OR LL WHEN XW OR LL WAS INSTALLED OVER CONCRETE PAVEMENT OR CROSS GUTTER.

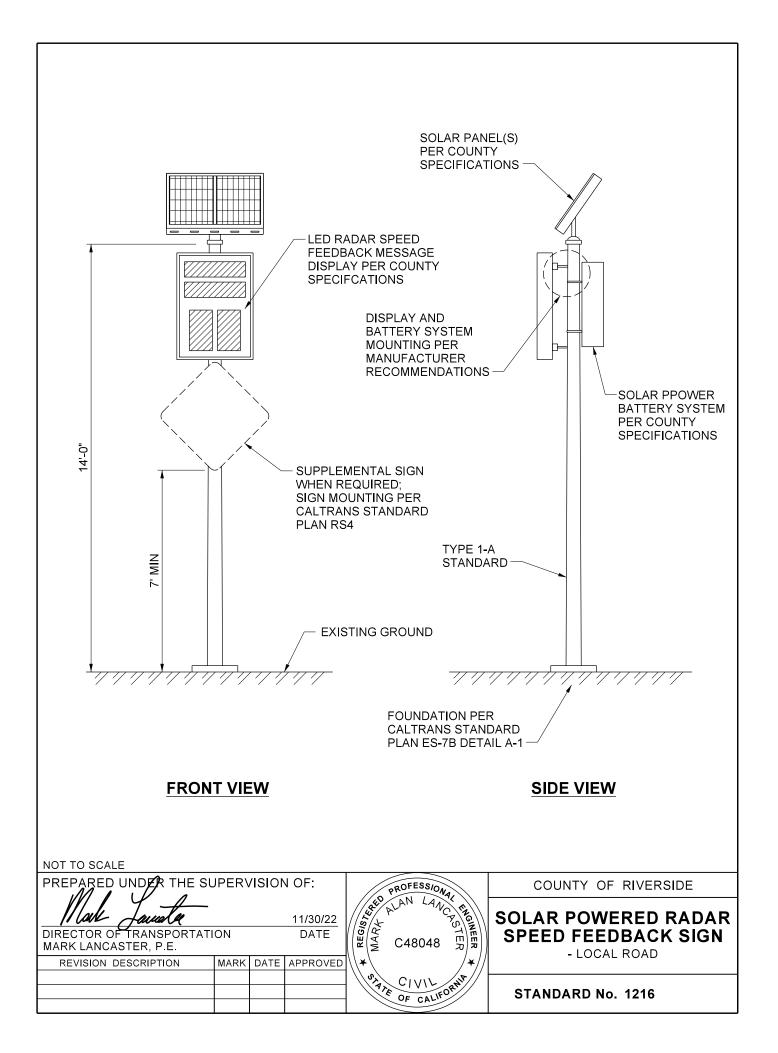
REVISION DESCRIPTION MARK DATE APPROVED

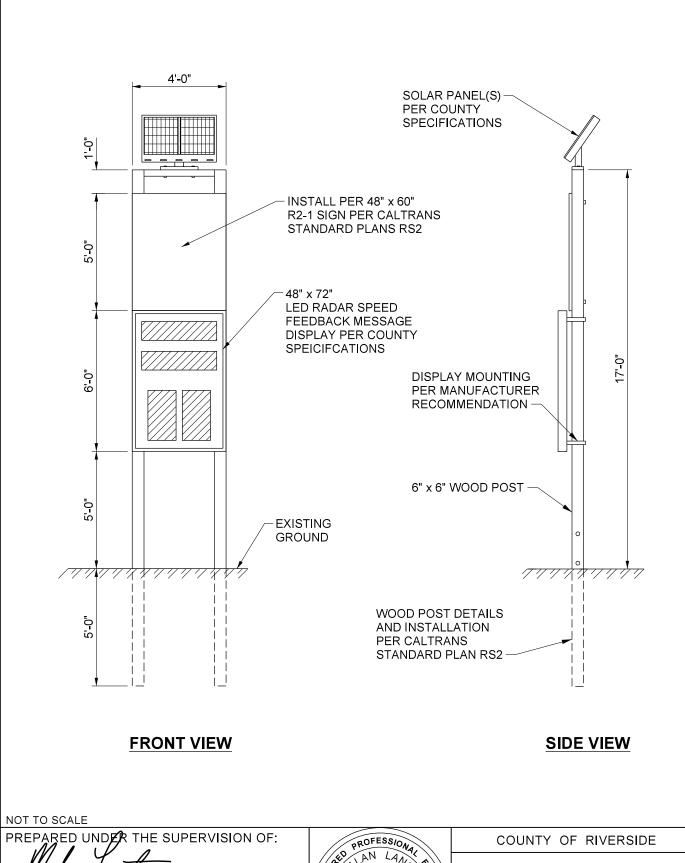


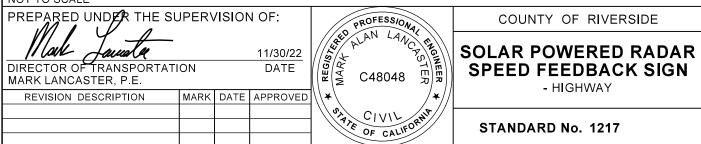
COUNTY OF RIVERSIDE

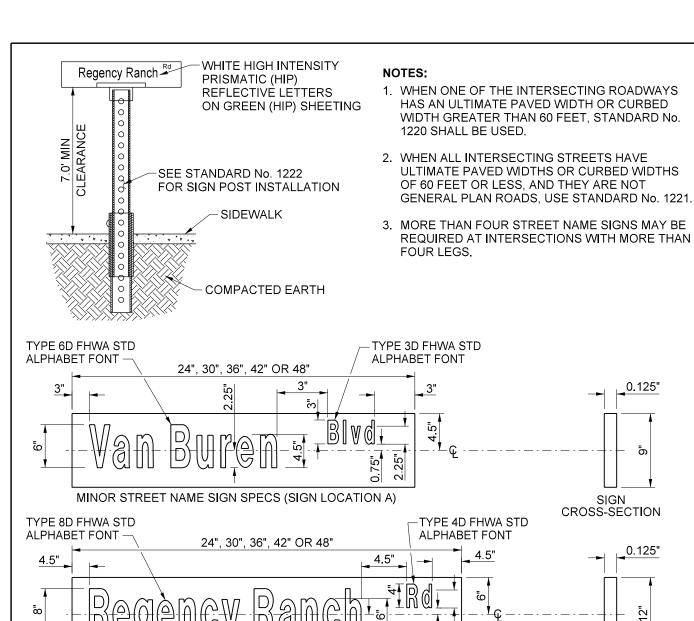
CROSSWALK AND LIMIT LINE DETAIL











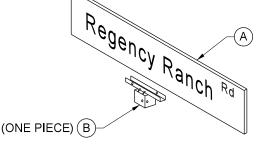
MAJOR STREET NAME SIGN SPECS (SIGN LOCATION B, C & D)

* LETTER SIZING AND SPACING SHALL MEET
FHWA SPACING GUIDELINES. MINOR
VARIATIONS AS APPROVED BY ENGINEER.

NOTES:

NOT TO SCALE

- (A) SIGN PLATES (5052-H38 ALUMINUM ALLOY MATERIAL)
- (B) 2" SQ x 12" CAST ANODIZED ALUMINUM POST CAP WITH SIX 3/8" ALLEN HEAD STAINLESS STEEL SET SCREWS TO FIT 0.125" SIGN BLANK



FOR ABBREVIATIONS SEE SHEET 2

SIGN CROSS-SECTION

PREPARED UNDER THE SUPERVISION OF:

11/30/22

DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED



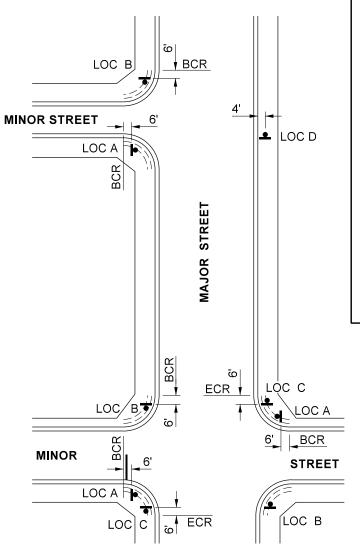
DATE

<u>a</u>

COUNTY OF RIVERSIDE

STREET NAME SIGN (CURB TO CURB WIDTH GREATER THAN 60')

STANDARD No. 1220 (1 OF 2)

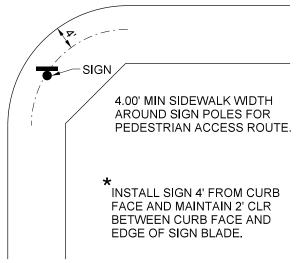


SIGN INSTALLATION LOCATIONS

- A. 9" BLADE, WITH MAJOR STREET NAME, PERPENDICULAR TO MINOR STREET.
- B. 12" BLADE, WITH MINOR STREET NAME, PERPENDICULAR TO MAJOR STREET.
- C. 12" BLADE, WITH MINOR STREET NAME, PERPENDICULAR TO MAJOR STREET.
 *(ONLY INSTALL SIGN LOC C IF SIGN LOC B DOES NOT PROVIDE GOOD SIGN VISIBILITY)

* FINAL SIGN LOCATION TO BE DETERMINED BY ENGINEER.

SIGN INSTALLATION DETAILS



SIGNS SHALL NOT EXCEED 48". IF STREET NAME CONTAINS A SECOND WORD, SECOND WORD MAY BE ABBREVIATED AS FOLLOWS:

OHEERY	4 D D D
SUFFIX	ABBR
AVENUE	Ave
BOULEVARD	Blvd
CANYON	Cyn
CENTER	Ctr
CIRCLE	Cir
COURT	Ct
DRIVE	Dr
LANE	Ln
LOOP	Lp
PARKWAY	Pkwy
PLACE	PI
RANCH	Rch
ROAD	Rd
SCHOOL	Sch
SPRING	Spr
STREET	St
TERRACE	Ter
TRAIL	Tr
WAY	Way

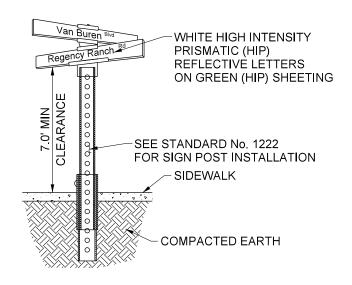
NOT TO SCALE

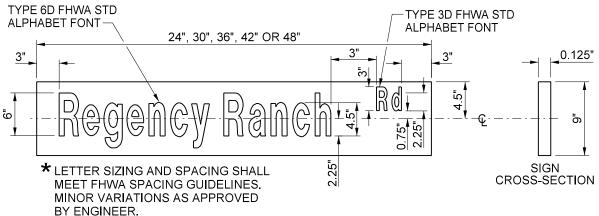


COUNTY OF RIVERSIDE

STREET NAME SIGN (CURB TO CURB WIDTH GREATER THAN 60')

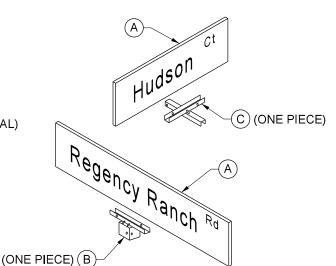
STANDARD No. 1220 (2 OF 2)





NOTES:

- (A) SIGN PLATES (5052-H38 ALUMINUM ALLOY MATERIAL)
- (B) 2" SQ x 12" CAST ANODIZED ALUMINUM POST CAP WITH SIX 3/8" ALLEN HEAD STAINLESS STEEL SET SCREWS TO FIT 0.125" SIGN BLANK
- (C) CENTER CROSS SADDLE SHALL BE 12" ONE-PIECE CAST ANODIZED ALUMINUM WITH FOUR 3/8" STAINLESS STEEL ALLEN HEAD SET SCREWS TO FIT 0.125" SIGN BLANK



NOT TO SCALE

FOR ABBREVIATIONS SEE SHEET 2

PREPARED UNDER THE SUPERVISION OF:

LOUR 11/30/22 DIRECTOR OF TRANSPORTATION DATE

MARK LANCASTER, P.E.

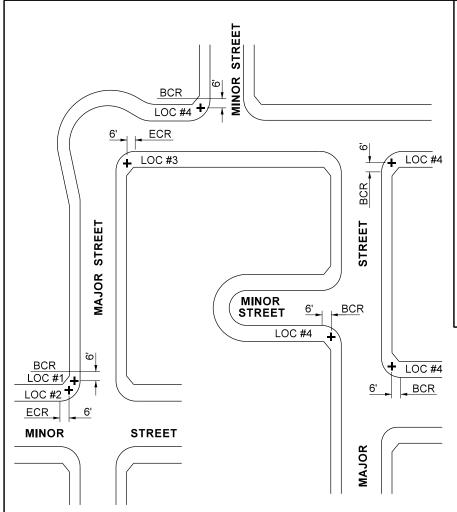
REVISION DESCRIPTION	MARK	DATE	APPROVED	\'
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COUNTY OF RIVERSIDE

STREET NAME SIGN (CURB TO CURB WIDTH LESS THAN OR EQUAL TO 60')

STANDARD No. 1221 (1 OF 2)



SIGN INSTALLATION LOCATIONS

SIGN LOC No. 1 - FOR RESIDENTIAL STREETS WITHIN A TRACT SIGN LOC No. 2 - ALL OTHER STREETS THAT ARE NON-RESIDENTIAL STREETS WITHIN A TRACT

RESIDENTIAL STREETS WITHIN A TRACT FOR LOCATION THAT IS INSIDE KNUCKLES FOR T-INTERSECTION

*FINAL SIGN LOCATION TO BE DETERMINED BY COUNTY ENGINEER

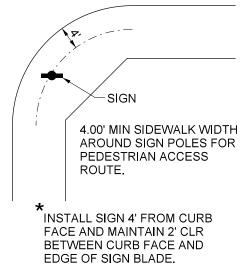
NOTE:

ONE COMPLETE NAME SIGN UNIT IS REQUIRED AT EACH INTERSECTION WHEN PAVED WIDTHS OR CURBED WIDTHS OF ALL INTERSECTING STREETS ARE 60 FEET OR LESS. AT INTERSECTIONS WITH ONE OR MORE STREETS WITH AN ULTIMATE PAVED WIDTH OR CURBED WIDTH GREATER THAN 60 FEET, USE STANDARD NO. 1220.

NOT TO SCALE



SIGN INSTALLATION DETAILS



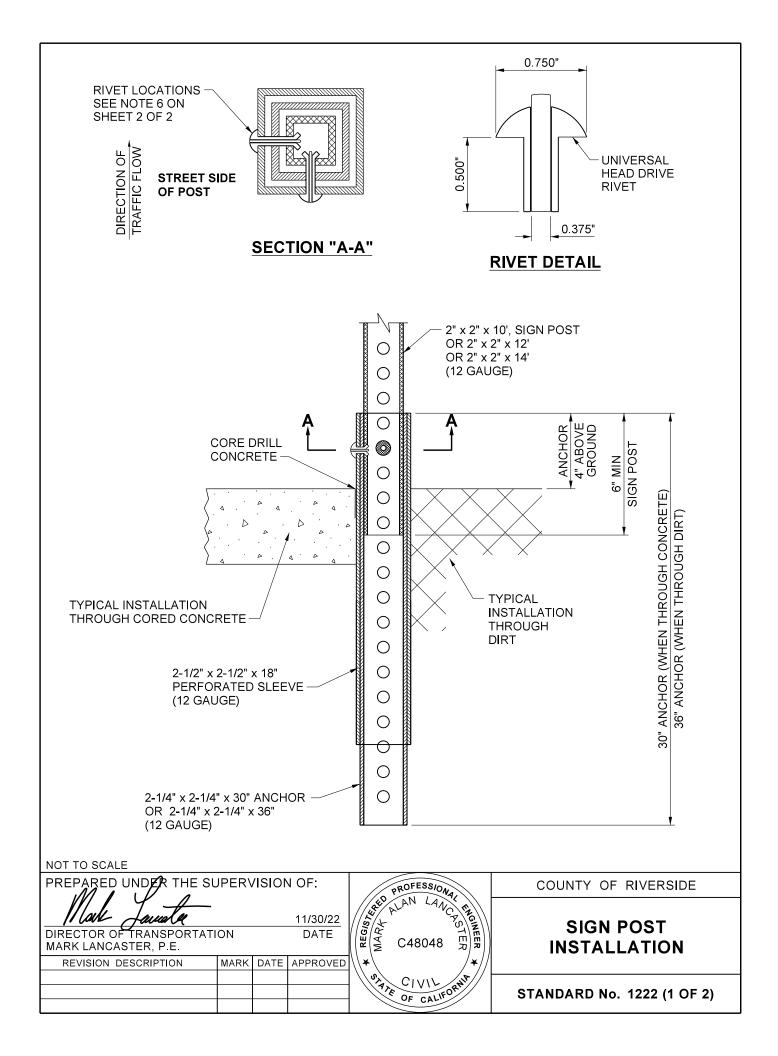
SIGNS SHALL NOT EXCEED 48".
IF STREET NAME CONTAINS A
SECOND WORD, SECOND
WORD MAY BE ABBREVIATED
AS FOLLOWS:

SUFFIX ABBR AVENUE Ave BOULEVARD Blvd CANYON Cyn CENTER Ctr	
BOULEVARD Blvd CANYON Cyn CENTER Ctr	_
CANYON Cyn CENTER Ctr	
CENTER Ctr	_
	_
010010	
CIRCLE Cir	
COURT Ct	
DRIVE Dr	
LANE Ln	
LOOP Lp	
PARKWAY Pkwy	
PLACE PI	
RANCH Rch	
ROAD Rd	
SCHOOL Sch	
SPRING Spr	
STREET St	
TERRACE Ter	
TRAIL Tr	
WAY Way	

COUNTY OF RIVERSIDE

STREET NAME SIGN (CURB TO CURB WIDTH LESS THAN OR EQUAL TO 60')

STANDARD No. 1221 (2 OF 2)



NOTES:

- SQUARE PERFORATED STEEL TUBE POST WITH TWO PIECE ANCHOR AND SLEEVE. "TELESPAR". SHALL BE USED FOR ALL TRAFFIC CONTROL AND INFORMATIONAL SIGNS WITHIN ROAD RIGHT OF WAY.
- 2. THE NUMBER OF POSTS REQUIRED FOR SIGN INSTALLATION SHALL BE DETERMINED BY THE AREA OF THE SIGN OR COMBINATION OF SIGNS TO BE INSTALLED. A SINGLE POST SHALL BE USED WHERE BOTH THE LENGTH AND WIDTH ARE 48" OR LESS. DOUBLE POSTS SHALL BE USED WHERE EITHER THE LENGTH OR WIDTH EXCEEDS 48".
- 3. THE 2 PIECE ANCHOR AND SLEEVE ASSEMBLY SHALL CONSIST OF A 2 1/4" SQUARE BY 30" (THROUGH SIDEWALK) OR 36" (THROUGH SOIL) ANCHOR WITH A 2 1/2" SQUARE BY 18" SLEEVE. ALL SLEEVES AND ANCHORS SHALL BE 12 GAUGE.
- 4. THE ANCHOR AND SLEEVE ASSEMBLIES SHALL BE DRIVEN SIMULTANEOUSLY UNTIL ONLY 4" REMAINS ABOVE GROUND LEVEL.
- 5. ALL DIRT SHALL BE REMOVED FROM THE INSIDE TOP 6" MINIMUM OF THE ANCHOR ASSEMBLY TO ALLOW FOR THE INSTALLATION OF THE SIGN POST.
- 6. INSTALL 2" SQUARE SIGN POST MINIMUM 6" INTO THE ANCHOR ASSEMBLY AND SECURE IN PLACE WITH TWO 3/8" DRIVE RIVETS AS SHOWN. THE RIVETS SHALL BE INSTALLED ON THE SIDE FACING TRAFFIC FLOW AND THE SIDE OF APPROACHING TRAFFIC AS SHOWN IN ORDER TO ACHIEVE THE MAXIMUM BREAK-AWAY EFFECT.
- 7. INSTALLATION ACCORDING TO THESE REQUIREMENTS IS ESSENTIAL TO MAINTAIN BREAKAWAY CHARACTERISTICS OF THE POST SYSTEM.
- 8. SEE STANDARD No's, 1220 AND 1221 FOR PLACEMENT OF SIGN POST.
- 9. ALL ANCHOR ASSEMBLIES SHALL BE CORE DRILLED THROUGH CONCRETE AND ASPHALT.
- ALL SIGNS ATTACHED TO PERFORATED POSTS SHALL HAVE ZINC COATED OR STAINLESS STEEL WASHERS BEHIND THE RIVET THAT ARE LARGER THAN THE HEAD OF THE RIVET.
- ALL REGULATORY, WARNING AND GUIDE SIGNS INSTALLED SHALL BE 0.080 INCHES IN THICKNESS.
- 12. ALL SIGNS 36" OR LARGER SHALL BE INSTALLED WITH BACK BRACES SPECIFICALLY DESIGNED FOR 2" SQUARE PERFORATED POSTS. (2" RISE)
- 13. IN SOME INSTANCES CONCRETE FOUNDATION MAY BE REQUIRED TO ENSURE PROPER STABILITY, THIS OPTION IS TO BE USED AT THE DISCRETION OF THE COUNTY ENGINEER OR DESIGNEE.

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF: lack

DIRECTOR OF TRANSPORTATION MARK LANCASTER, P.E.

REVISION DESCRIPTION MARK DATE APPROVED



11/30/22

DATE

COUNTY OF RIVERSIDE

SIGN POST INSTALLATION

STANDARD No. 1222 (2 OF 2)



RED LETTERS ON WHITE BACKGROUND WITH RED BORDER

SIZE: 24" x 30" C.R.: 1-1/2" MARGIN: 3/8"

BORDER WIDTH: 5/8"

SINGLE FACE SCREEN

2 HOLES, 3/8" DIA STD

SHEETING: SEG

SUBSTRATE: 0.063" ALUM SCREEN ID & ANTI INK

LINE	SIZE	SERIES	COLOR	FONT	S	LC
1	5"	В	WHT	FHWA	Χ	
2	4"	С	RED	FHWA	Χ	
3-5	3"	В	RED	FHWA	Х	
6	1.5"	С	RED	FHWA	Х	

NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION

DATE

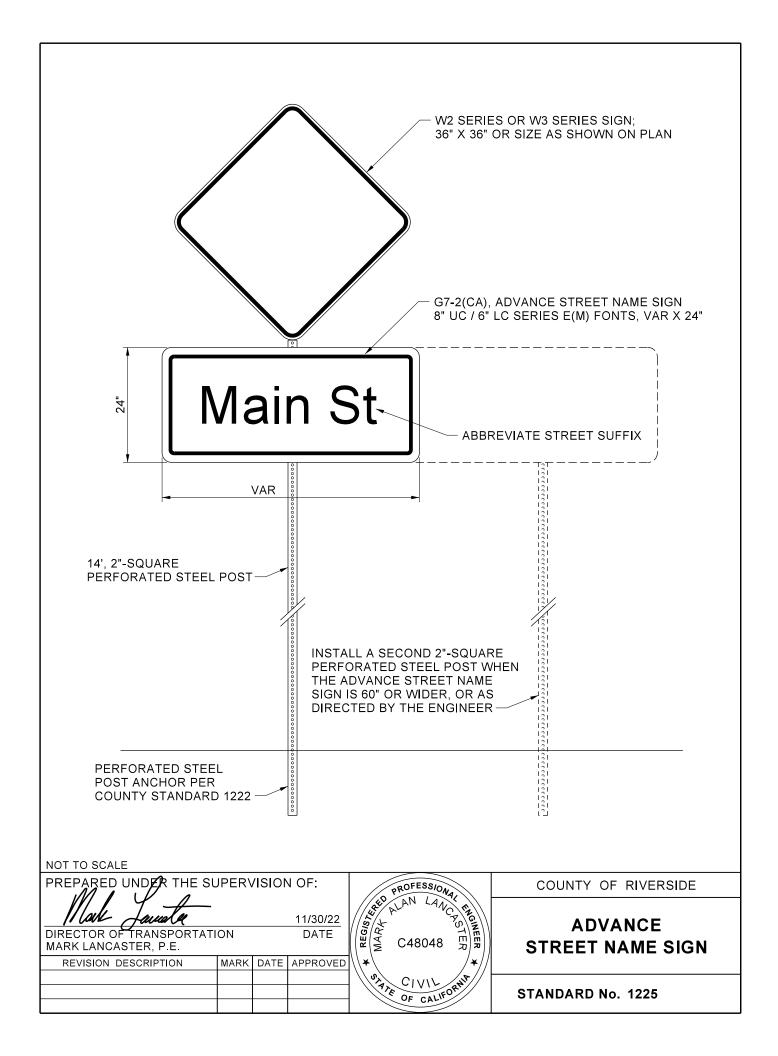
MARK LANCASTER, P.E.

REVISION DESCRIPTION	MARK	DATE	APPROVED



COUNTY OF RIVERSIDE

NO PARKING SIGN RV'S / TRAILERS



SOUTH MESA WATER COMPANY STANDARD SPECIFICATIONS

FOR THE FURNISHING OF MATERIALS AND THE CONSTRUCTION OF WATER FACILITIES FEBRUARY 1, 2014



SOUTH MESA WATER COMPANY 391 WEST AVENUE L CALIMESA, CA 92320 (909) 795-2401

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SECTION I GENERAL REQUIREMENTS

1-01 DEFINITIONS

The word "Water Company" shall mean the South Mesa Water Company.

The word "Board" or words "Board of Directors" shall mean the Board of Directors of the Water Company.

The words "General Manager" shall mean the Manager in charge of operations appointed by the Board of Directors acting directly, or indirectly through his properly authorized agents, engineers, assistants, inspectors and superintendents.

The word "Contractor" shall mean the person, persons, partnership or corporation duly licensed as such in the State of California to enter into a contract for the performance of the work required.

The word "Applicant" used herein shall mean the person or persons and duly authorized representatives of the party or parties requesting an extension or an addition to the Water Company's water system.

The word "Plates" shall refer to the Water System Construction Plans that have been prepared by the Applicant's engineer and approved by the Water Company.

1-02 CONDITIONS

On all questions relating to the acceptability of the material, machinery or plant equipment, classifications of material or work, the proper execution, progress or sequence of the work, quantities and the interpretation of the specifications or drawings, the decision of the Water Company shall be final.

The Contractor shall obtain copies of and comply with all applicable current statutes, laws, ordinances, rules, regulations and specifications of the United States Government, the State of California, the applicable Counties of either Riverside or San Bernardino, and any other governmental agencies having jurisdiction and shall make application for all required permits and bear cost of same.

Street cut and trench repair permits for the construction of the domestic water system shall be obtained by the Water Company from the appropriate governmental agencies, prior to construction.

In the event of conflict between the requirements of these Specifications and the Requirements of the permits, the requirements of the permits shall govern.

The Contractor shall furnish to the Water Company copies of all required permits and licenses prior to initiation of the work. Upon completion of the work, the Contractor shall supply to the Water Company, a letter of approval from the governing body having jurisdiction that the Contractor has met the requirements and conditions of the permits or licenses.

1-03 SUPERVISION AND INSPECTION

The General Manager shall decide within the provisions of the specifications all questions which may arise concerning the quality or acceptance of materials furnished and work performed by the Contractor.

1-04 CAL-OSHA SAFETY CODE

All work shall be done in a manner that complies with all CAL-OSHA Title 8 Safety Codes.

1-05 DEFECTIVE WORK OR MATERIALS

No work which is defective in its construction or deficient in any of the requirements of these specifications will be considered as accepted in consequence of the failure of any inspector connected with the work to point out said defects or deficiency during construction. The Contractor shall correct any imperfect work, without compensation from the Water Company, before final acceptance of the work by the Water Company.

1-06 MAINTENANCE OF EXISTING IMPROVEMENTS

Unless otherwise indicated in the plans or in these specifications, or unless otherwise cared for by the owner of a public utility or franchise, all water, gas, oil or irrigation lines, structures or house laterals, in place, and other subsurface structures or lines, shall be maintained by the Contractor and shall not be disturbed, disconnected or damaged by him during the progress of the work. Should the Contractor in the performance of the work disturb, disconnect or damage any of the above, all expenses of whatever nature arising from such disturbance or in the replacement or repair thereof shall be borne of the Contractor.

1-07 PROXIMITY TO SEWERS

If the horizontal separation between parallel sewer and water lines must be less than 10 feet, or if the sewer crosses below the water line with less than one foot of separation, special construction as required by the State Department of Health Services and approved by the Water Company is required.

SECTION 2 MATERIALS

2-01 GENERAL

The Contractor shall furnish and install either PVC or Ductile Iron Pipe only. All material in the pipeline work shall be new and unused. All material in the pipeline work shall be of the selected type of pipe. All materials shall be suitable for 150 psi working pressure unless specified otherwise. All pipelines shall have a detectable locating tape laid with the pipe. The tape shall be highly visible and shall be impervious to alkalis, acids, chemical reagents and solvents found in the soil. The metallic core shall have a minimum overall thickness of 5 mils. Tape shall have imprinted continuously over its length, in permanent ink, a message in the form of "CAUTION WATERLINE BURIED BELOW". Maximum imprint length shall be 36 inches per message. Locating tape shall be a minimum of 3 inches wide.

2-02 PLASTIC (PVC) PRESSURE WATER PIPE & FITTINGS

PVC pipe shall be extruded from 12454 A or B compound providing a hydrostatic design basis (HDB) of 4000 p.s.i. in accordance to AWWA C-900 and C-905. Pipe shall have cast iron outside diameters.

All rubber rings shall be furnished by the pipe manufacturer. These rubber rings (elastomeric gaskets) shall be manufactured to conform with the requirements of ASTM F-477.

AWWA C-900 PVC pipe shall be class 150 and AWWA C-905 PVC pipe shall be rated at 235 p.s.i. (DR-18) or as specified on approved drawings. PVC pipe shall not be installed for working pressures exceeding 150 p.s.i. unless specifically approved by the Water Company.

Fittings for PVC pipe shall be flanged or bolted mechanical joint or push-on joint ductile or gray iron fittings and shall conform to ANSI/AWWA C110/A21.10 or C153/A21.53, and ANSI/AWWA C111/A21.11. All fittings shall be cement mortar lined and tar (seal) coated in accordance with ANSI/AWWA C104/A21.4.

Restrained Joints shall be provided by a clamping ring and an additional ring designed to seat the bell end of the pipe. The rings shall be connected with T-Head bolts or rods. Restraining devices shall provide full (360 degree) support around the circumference of the pipe. No point loading shall be permitted. Restraint of mechanical joint fittings shall be provided by a clamping ring installed on the PVC pipe and connected to the mechanical joint fitting with T-Head bolts or rods. Restraining devices shall meet or exceed the requirements of ASTM F-1674 or UNI-Bell B-13 "Recommended Standard Performance Specification for Joint Restrainers for Use with PVC Pipe." Restraining devices shall be UNI-Flange Series 1300 or 1350 or approved equal.

All buried steel parts shall be sand blasted in accordance with the coating manufacturers technical data sheet for "submerged" service and coated with a two coat epoxy. Epoxy shall be Tnemac Series 66 or equal. All bolts and tie rod materials shall be either high strength cast iron containing a minimum of 0.5% copper or high-strength, low alloy steel, as specified in AWWA C-111 for buried mechanical joints.

All service connections to PVC pressure pipe water main shall be constructed with bronze service saddles with CS threads for receiving a brass corporation stop in accordance with standard drawings. Service saddle shall be Jones, Mueller, or approved equal.

All ductile or gray iron fittings shall be polyethylene encased at the time of installation. Polyethylene encasement and installation shall be in accordance with ANSI/AWWA C105.

2-03 DUCTILE IRON (DIP) WATER PIPE & FITTINGS

Ductile iron pipe and fittings shall be cement mortar lined. All pipe joints shall be mechanical or push on type.

Applicable sections of the following standards will apply to ductile iron pipe and fittings:

STANDARD

AWWA C151 DUCTILE IRON PIPE

AWWA C104 CEMENT MORTAR LINING

AWWA C110 FITTINGS

AWWA C1111 RUBBER GASKET JOINTS

2-04 BUTTERFLY VALVES

Butterfly valves will be acceptable for sizes 12 inches to 20 inches. Butterfly valves shall conform to all requirements of A.W.W.A. C504 for buried service. Valves shall be flanged and provided with 0-ring shaft seals and manual operators with an operator nut to open counterclockwise. The dimensions of the operator nut shall be in accordance with Sec. 3.16, "Wrench Nuts and Hand-wheels" of A.W.W.A. C500. Valves shall be as manufactured by Mueller or approved equal.

2-05 RESILIENT WEDGE GATE VALVES

Resilient Wedge Gate Valves 4 inch through 12 inch nominal pipe size shall conform to all requirements of A.W.W.A. C509-80 or latest revision thereof. Valves shall have non-rising stems, opening by turning counter-clockwise. Valves shall be provided with 0-ring shaft seals and operating nuts and hand-wheels in accordance with the applicable sections of the above referenced standard. Valves shall be manufactured by Mueller or approved equal.

2-06 VALVE BOXES

Valve boxes and caps shall be furnished and installed with all buried valves. The valve boxes shall be of the two piece adjustable type with cast iron caps or as directed by the Water Company. The valve boxes shall have walls not less than 10 gauge and the nominal diameter shall not be less than 8 inches. Valve box caps shall have the word "WATER" cast into them.

2-07 FIRE HYDRANTS (FH)

Fire hydrants shall be of the break-off traffic type and shall conform to A.W.W.A. C502 with 6 inches flanged inlet and 5-1 /2 inch valve opening. Nozzle threads shall be American National Standard. Operating nut shall be 1-1/2 inch National Standard pentagon. The main valve shall be equipped with "O" ring seals and shall open when turned left or counter-clockwise. Fire hydrants shall be painted as specified by the Water Company. Hydrants shall be Mueller or an approved equal and shall be equipped with two 2-1 /2 inch hose nozzles and one 4 inch pump nozzle. The drain plug shall be permanently sealed before installation.

2-08 BLOW-OFF (BO)

The hydrant head on the 4-inch Blow-off assembly shall be a model J-344 by James Jones Company or equal with a 4-inch inlet and 2-1 /2 inch hose connection outlet. The Blow-off assembly shown in Std. Dwg. W-7A or W-7B shall be used at all low points along water mains.

2-09 AIR VACUUM VALVE (AV)

Air valve shall be designed to permit automatic escape of large quantities of air from the pipeline when the line is being filled and permit air to enter the pipeline when the line is being emptied. It shall also allow accumulating air to escape while the line is in operation under pressure. Valves shall be ARI "Heavy Duty" combination air release valves. The size shall be specified on the plans.

2-10 STEEL FLANGES

Steel flanges shall be A.W.W.A. C207, Class D, ring type or blind type as required, sizes as shown.

2-11 GASKETS

Gaskets for flanged joints shall be ring type 1/16 inch thick for pipe 10 inches and smaller and 1/8 inch for larger pipe. Gaskets shall be Johns-Manville Type 60 or approved equal, and shall conform to applicable requirements of A.W.W.A. C207.

2-12 FLEXIBLE COUPLINGS

Flexible couplings shall be Rockwell 411 steel couplings by Rockwell International or approved equal.

2-13 FLANGED COUPLING ADAPTORS

Flanged coupling adaptors between flanged fittings and asbestos cement pipe shall be Rockwell 916 Ring Type FCA. For ductile iron pipe use Rockwell 912 Cast FCA. For steel pipe use Rockwell 913 Steel FCA or approved equal.

2-14 WATER SERVICE LINES

All water service lines 1" and smaller in size shall be Polyethylene Tubing meeting AWWA C-901 specifications. All water service lines 2" to 12" in size shall be PVC C900 CL. 200. All water service lines exceeding 12" in size shall be PVC DR-18 Class pipe. All water service lines regardless of size shall be rated for continuous pressure of 150 psi minimum.

2-15 SADDLES, CORPORATION STOPS, ANGLE METER VALVES

All service saddles, corporation stops, angle meter stops and such appurtenances shall be compatible with material selected and be equal to those manufactured by James Jones Company, Mueller Company, Ford Meter Box Company, Inc. or approved equal.

2-16 METERS

Unless otherwise specified, all meters will be provided by the Water Company at the Applicants expense. All water service meters shall be in accordance with A.W.W.A. C708 Standard for Cold-Water Meters Multi-Jet Type for Customer Service. An affidavit of compliance shall be submitted stating that all meters furnished comply with all applicable requirements of A.W.W.A. C708. Size and quantity shall be as shown on the plans or directed by the Engineer. The main casing shall be of a copper alloy as specified in A.W.W.A. C708. Casing spuds for all meters 1 inch thru 2 inch shall have external ANS pipe threads. Registers shall be straight reading and shall read in cubic feet. The registers shall be the dry type. Meters shall be Precision Meters or approved equal.

2-17 METER BOXES

Residential and commercial meter boxes housing a 1 inch service meter shall be Advanced Engineering Products (AEP) Model 1730 15P2P or equal, (See Std. Dwg. No. W-1). Meter box cover shall be marked "WATER", in color green. Meter boxes housing service meters larger than 1 inch shall be specified on a case by case basis by the Water Company.

A workmanship and materials warranty shall be furnished requiring the manufacturer to replace without charge, those parts in which defects have developed within 15 years of installation and acceptance.

2-18 CONNECTION WITH EXISTING SYSTEM

All materials necessary to make connections between proposed and existing water systems per details shown on the Plans shall be furnished by the Contractor and shall be of the size and class shown on the accompanying Plans. Items indicated to be salvaged on the Plans but not used on this project are the property of the Water Company.

2-19 WATER MAIN STEEL CASING & JACK & BORED CROSSINGS

General - Work covered by this paragraph includes all pipe, fittings, casing, special appurtenances and materials between the stations indicated on the plans.

Installation - Before starting an excavation, the contractor shall submit drawings of jacking pit bracing, casing (or conduit) and jacking head proposed to be used for approval by the Water Company.

Materials – The Contractor shall comply with all manufacturer recommendations for the approved products. Unless approved by the Water Company, the casing shall be welded steel pipe meeting ASTM 53, Grade B, and have minimum yield strength of 35,000 p.s.i. The exterior of the casing pipe shall be coated with a bituminous asphalt, or approved equivalent.

Welding – Requirements shall be in accordance with ANSI/AWWA C206. Welding procedures shall be required for, at a minimum, longitudinal and girth or special welds for pipe cylinders, casing joint welds, reinforcing plates, and grout coupling connections. Welding shall be performed by skilled welders, welding operators, and tackers who have experience in the type of materials used.

Contractor shall utilize equipment and methods designed to install pipe casing as shown in the Contract Documents. Boring and jacking shall be performed by qualified personnel experienced in this type of work. Selected equipment shall be capable of accurate alignment and grade control, and shall protect against subsidence or other disturbance of ground, existing utilities, structures, and road surfaces. Such approval, however, shall in no way relieve the contractor of the responsibility for making a satisfactory installation meeting the criteria set forth herein. Only workers experienced in jacking operations shall be used in performing the work.

The leading section conduit shall be equipped with a jacking head securely anchored there to prevent any wobble or variation in alignment during the jacking operation.

The driving ends of the conduit shall be properly protected against spilling and other damage, and intermediate joints shall be similarly protected by the installation of sufficient bearing shims to properly distribute the jacking stresses. Any section of conduit showing signs of failure shall be removed and replaced with a new section of precast conduit, or with a cast-in-place section, which is adequate to carry the loads imposed upon it.

Sluicing and jetting with water is not permitted. Limited use of water for lubrication of drills may be permitted if approved by the Water Company.

Excavation shall not be made in excess of the outer dimensions of the conduit being jacked unless approved by the Design Engineer and authorized by the Water Company. Every effort shall be made to avoid any loss of earth outside the conduit as excavation progresses, and no accumulation of such material within the conduit will be permitted.

Once the jacking operation has commenced, it shall be continued un-interrupted round the clock until the conduit has been jacked between the specified limits.

Upon completion of the jacking operations, all voids around the outside face of the conduit shall be filled by grouting. Grouting equipment and material shall be on the job site before jacking operations and drilling of grout holes are completed in order that grouting around the jacked conduit may be started immediately after the jacking operations have finished.

Should appreciable loss of ground occur during the jack operation, the voids shall be backpacked promptly to the extent practicable with soil cement (slurry) consisting of a slightly moistened mixture of 1 part cement to 5 parts granular material. Where the soil is not suitable for this purpose, the contractor shall import suitable material at his expense.

The soil cement shall be thoroughly mixed and rammed into place as soon as possible after the loss of ground.

Carrier pipe shall be installed as per manufacturer's recommendations and as per approved submittal. Closure of the casing shall be done only after pipeline tests have been completed and approved.

Steel casing pipe shall have a minimum wall thickness one-quarter (3/8) inch wall thickness for pipe 12 inch to 20 inch nominal diameters and a minimum three eighths (1/2) inch wall thickness for pipe sizes up to 36 inch nominal diameter or in accordance with the requirements of the governing agency whichever is greater, and shall be manufactured in accordance with American Water Works Association (A.W.W.A.) Standard C200, latest revision entitled "A.W.W.A. Standard for Steel Water pipe 6 inches and larger". The casing shall be round and straight, free from protruding bolts, rivets or welds, and shall have an inside diameter of not less than the maximum diameter of the water main plus six (6) inches. The ends of the Steel Casing Pipe to be jacked or bored into place shall be prepared to withstand pressures created by jacking the pipe into place.

2-20 CONCRETE

- a) Portland Cement shall conform to ASTM Standard Specification C150, latest revision, entitled "Portland Cement", and shall be Type I or II. Cement in containers that have been broken in shipment or handling, may be used only if approved by the Water Company.
- b) Sand shall consist of well-graded, natural or artificially washed and that has clean, hard, strong matter. Sand shall not contain over three (3) percent clay or silt by weight.
- c) Coarse Aggregate shall consist of gravel, or a combination of gravel and crushed rock, having clean, hard, tough, durable and uncoated pieces free from injurious amounts of soft, friable, thick, elongated pieces, alkali, oil, organic or other deleterious substances.

Aggregate shall be properly graded, from 1/4 inch to 1/2 inch in size, to secure the required compressive strength concrete.

- d) Water shall be clean, free from injurious amounts of oil, acids, organic matter or other injurious substance.
- e) Mixing Concrete required for thrust blocks and other water system items shall be composed of the following relative volumes of materials:
 - 1 cubic foot of cement (1 sack, 94 lbs.)
 - 2 cubic feet of sand (dry, loose)
 - 3 cubic feet of coarse aggregate

Only sufficient water shall be used to produce a concrete with a slump not exceeding 5 inches, as determined by ASTM Standard Method of Test, C143m latest revision. The total volume of sand and coarse aggregate measured separately shall not exceed 6 cubic feet per sack of cement. Concrete shall be placed within 30 minutes of mixing and no re-tampering will be permitted. Batch slips shall be furnished by the Contractor when requested by the Water Company, if Transit Mix Concrete is supplied. Unless otherwise specified, all concrete shall have a 28-day compressive strength of 2,500 psi minimum and shall contain 5.5 sacks of cement per cubic yard of concrete.

2-21 COAL TAR COATING

Coal tar mastic for buried ferrous metal surfaces shall be Kopper's Bitumastic No. 505, Tnemec 46-450, Pasco Pipe Wrap Primer No. 9047 or approved equal.

SECTION 3 EXCAVATION, TRENCHING AND BACKFILL

3-01 GENERAL

The work covered by this portion of the specifications consists of the furnishing of all plants, labor, equipment, appliances, and materials and the performance of all operations in connection with excavation, trenching, and backfilling for water mains and appurtenant structures, in strict accordance with the specifications and the applicable drawings.

In case of conflict in requirements for excavation, trenching and backfilling between these specifications and any statutes, laws, ordinances, rules, regulations and specifications of any

political subdivision or agency having jurisdiction, it shall be understood that the more exacting requirements shall govern. In general, these specifications will apply in Water Company right of ways and easements and the aforementioned statues, laws, ordinances, rules, regulations and specifications of any political subdivision or agency having jurisdiction will apply within the political boundaries or public rights of way to which they apply.

3-02 EXCAVATION

The Contractor shall perform all excavation of every description and whatever substances encountered, to the depths and alignment indicated on the construction drawings or as otherwise specified. During excavation, material suitable for backfilling shall be piled in an orderly manner, a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. All excavated materials not required or suitable for backfill shall be removed and wasted by the Contractor at the direction of the Water Company.

Such grading shall be done as necessary to prevent surface water from flowing into trenches or other excavations. The Contractor shall remove, by pumping or other means approved by the Water Company, any water accumulated in the trench from any source.

In accordance with the requirements of Section 6705 of the California Labor Code, the Contractor, prior to beginning any trench or structure excavation in excess of 5 feet deep, shall be in receipt of the Water Company's written acceptance of the Contractor's detailed plan showing design of all shoring, bracing, sloping of the sides of excavation, or other provisions for worker protection against the hazard of caving ground during the excavation. If such plan varies from the shoring system standards established in the Construction Safety Orders of the State of California, such alternative systems plans shall be prepared by a civil or structural engineer licensed in the State of California.

Unless otherwise indicated, excavation shall be by open trench except that short sections of a trench may be tunneled if, in the opinion of the Water Company, the pipe can be safely and properly installed, backfill can be properly tamped in such tunnel sections, and the requirements for the tunneling can be waived by the State Mining office. Proof of a waiver from the State Mining office must be obtained prior to the contractor commencing his work.

All spoil shall be thrown on one side of the trench only to facilitate distribution and installation of pipe in such a manner that it will not endanger the work and will avoid obstructing roads and driveways. Adequate provisions shall be made for maintaining the flow of water courses, drains, sewers or ditches crossing the trench and, upon completion of the work, they shall be restored to their original condition.

The use of trench digging machinery will be permitted except where its operations will cause damage to trees, buildings or existing structures above or below the ground. At such locations, hand methods shall be employed to avoid such damage. Trees, fences, poles and other property shall be protected unless their removal is authorized. Any property damaged shall be restored to its original condition by the Contractor to the satisfaction of the Water Company.

Minimum cover over the pipe in areas where grade is not shown on the plans shall be forty-two (36) inches. Depth of cover shall be measured from the established street grade or the surface of the permanent improvement to the top of the pipe barrel. In the case of lines outside of the existing or proposed street right-of-way, additional cover may be average natural ground surface. Any deviation shall be subject to approval by the Water Company.

The width of the trench at the top level of the pipe shall be in accordance with the following table:

PIPE SIZE-INCHES TRENCH WID		OTH-INCHES
Inside Diameter	Minimum	<u>Maximum</u>
4	20	28
6	22	32
8	24	32
10	26	36
12	30	36
14	32	42
16	34	42

The Contractor shall maintain a minimum clearance of seven (7) inches for pipe sizes four (4) inches through ten (10) inches in diameter and eight (8) inches for pipe sizes twelve (12) inches through sixteen (16) inches in diameter. The clearance shall be on each side of the pipe between the trench wall and the outside surface of the pipe barrel as measured at the horizontal centerline of the pipeline.

Where the bottom of the trench is in rock or hard materials, the trench shall be excavated six (6) inches below grade. Where the trench has been excavated below grade for any purpose, the trench shall be refilled to the proper trench grade with selected backfill material compacted to (90) percent of its maximum density as determined by ASTM 1556 and D 1557.

Excavation behind all fittings requiring thrust blocks shall not be machine dug, but shall be hand dug to keep the trench wall solid and undisturbed.

The Contractor shall at his own expense provide his own monuments and necessary survey work to indicate at the site of the work the alignment and grade for the pipelines to be laid in accordance with the Plans and such grade shall be uniform. No high or low points in the line shall be permitted except as shown on the Plans or to conform to the general grade of the street or contour of the terrain through which the pipe is to be laid. No deviation shall be made from the required line or grade except with the written consent of the Water Company. In event a "High Point" is created at locations other than shown on the Plans or as directed by the District, air and vacuum release valves of suitable capacity shall be installed, at no expense to the Water Company, to permit air to be released from or taken into the pipeline at said "High Point". Drainage assemblies shall be installed at low points at no expense to the Water Company.

In event blasting is necessary for excavation, the Contractor's method and procedure shall conform to all applicable laws and regulations of the State, County and/or Local authority and shall require prior approval of the Water Company.

All excavations shall be kept free of water while concrete or pipe is being placed and until concrete has attained its initial set to eliminate any possible damages from such water. The Contractor shall furnish, install and operate all necessary machinery, appliances, and equipment to keep excavations sufficiently free from water from any source during construction of the work to permit proper pipe laying and jointing and shall dispose of water so as not to cause injury to public or private property or to cause a nuisance or a menace to the public.

Where ground water control is necessary, the contractor shall submit a dewatering method to be approved by the Water Company.

3-03 BACKFILL

- a) General Backfilling of the trench around the pipe and excavation around appurtenances shall follow the installation as closely as possible. Backfill shall be accomplished in two stages; (1) initial backfill from proper trench grade to twelve (12) inches over the pipe; (2) Final backfill from twelve (12) inches over the pipe to the surface.
- b) Initial Backfill Initial backfill should be accomplished as soon as possible after the pipe has been laid. The backfill material shall be approved by the Water Company and shall contain no particles larger than one (1) inch or other objectionable material. The material shall be sufficiently damp to permit thorough compaction on all sides of the pipe and free from voids. Initial backfill shall consist of placing the backfill from proper

trench grade to an elevation of twelve (12) inches over the top of pipe by the following procedures:

The first lift of material shall be uniformly placed on both sides of the pipeline for the full width of the trench and have a maximum loose depth of not more than six (6) inches as measured from the trench bottom. This material shall then be tamped under and around the pipe and joints until all voids underneath and around the pipe and joints have been filled.

After the voids beneath the pipe have been filled, the material between the trench walls and the pipe shall be compacted, with each layer firmly compacted, prior to placing the subsequent material, until the material has reached a minimum depth of the horizontal centerline of the pipe line to a depth of twelve (12) inches over the pipe lines, the backfill material shall be placed in horizontal layers not exceeding eight (8) inches in depth and properly compacted by tamping.

Flooding of the initial backfill may be permitted with prior approval of the Water Company. Flooding of the initial backfill will be permitted when the material contains no rocks larger than one (1) inch and has a sand equivalent value of not less than 30 as determined by Test Method No. 217 of the California Division of Highways.

- c) Alternate Initial backfill shall consist of placing saturated sand approved by the Water Company, from either onsite or off-site sources, from proper trench grade to a compacted elevation of twelve (12) inches above the top of the pipe. The sand shall be properly saturated before placement in the trench. This material may be placed in one lift provided adequate rodding or vibrating during placement is performed to assure filling of all voids under and around the pipe. Care should be taken to avoid floating of pipe in all cases. This method of initial backfill shall be used only when the native material in the trench permits adequate drainage and is suitable in the opinion of the Water Company. There shall be no free water standing on the surface of the initial backfill at the time final backfill is placed.
- d) Final Backfill The balance of backfill shall contain no particles larger than six (6) inches in its greatest dimension or such smaller dimensions as specified by the governing body having jurisdiction and shall be free from brush or any other perishable or objectionable matter than would prevent proper compaction, consolidation or that might cause subsequent settlement. Backfill in easements not subject to vehicular traffic shall be compacted to a minimum of 85 percent of maximum density as determined by ASTM D1556 and D1557. In roadways, shoulders, driveways, etc. which are subject to

vehicular traffic the backfill shall be compacted to a minimum of 90 percent of maximum density. Compaction within existing or proposed streets shall also meet any higher standard of the governing authority.

Flooding and/or jetting of the material to accomplish compaction will not be permitted without prior authorization by the Water Company. For trenches eight (8) feet in depth or less, the final backfill may be placed in compacted lifts of twenty-four (24) inches, or one half (1/2) of the trench depth, whichever is the greater depth. For trenches greater than eight (8) feet in depth, the material shall be placed in maximum compacted lifts of four (4) feet. The depth of fill lifts in trenches on slopes may be reduced by the Engineer to facilitate compaction.

Any deficiency in the quantity of material for backfilling the trenches or for filling depressions caused by settlement shall be supplied by the Contractor. Surplus spoil shall be crowned over the trench, spread or hauled away as directed by the Water Company.

Backfill within traveled streets or highways, existing or proposed, shall meet the standards and approval of the agency having jurisdiction over same.

Trenches improperly backfilled, or where settlement occurs shall be reopened to the depth required for proper compaction, then backfilled and compacted, with the surface restored to the required grade.

Where flooding and/or jetting has been approved by the Water Company, backfill shall be thoroughly consolidated by use of water jets. The Contractor shall use water jets of at least one and one-quarter (1-1/4) inches in diameter and of sufficient length to extend to within one foot of the top of the pipe.

Where water is not readily available in sufficient quantity and pressure, the backfill may be flooded by the following method. The water shall be allowed to flow slowly into the trench from the upper end, and shall be worked down to the bottom of the trench by "poling". Care shall be taken to insure that water does not flow through the trench before it has penetrated down to the pipe line.

3-04 PAVEMENT REPLACEMENT

When it is necessary to break pavement in order to lay the pipe lines shown on the construction drawings, the existing pavement shall be cut vertically as nearly as possible to a straight line by

an approved method. The pavement so removed shall be hauled away as directed by the Water Company and shall be replaced with like material. All pavement removal and replacement shall conform to Std. Dwg. No. W-16, and specifications of the governing body having jurisdiction and shall meet with their approval. The Contractor shall be responsible for removing and replacing all necessary pavement.

SECTION 4 INSTALLATION

4-01 GENERAL

All foreign matter and dirt shall be removed from the interior of the pipe prior to its installation. Before lowering, the pipe shall be inspected for defects. Any defective, damaged, or unsound pipe shall be rejected. The entire joint including coupling, machined sections of the pipe and the rubber gasket or ring shall be thoroughly cleaned at the time the joint is made. The entire procedure and method of installation of the pipe and making joints shall be done in a workmanlike manner and shall be in strict accordance with the pipe manufacturer's direction and recommendations.

All pipe shall be laid according to the size, class, location and grade shown on the Plan. The faces of all spigot ends and all shoulders in the hubs or sockets must be true and brought into firm contact. Rubber ring installation shall be checked with suitable gauges to insure that they are located in the proper position relative to the pipe ends.

When pipe laying is not in progress the unfinished end of the pipe shall be securely closed with a suitable water tight plug or cover to prevent the entrance of animals or foreign matter into the line.

The Contractor shall take all necessary care and precautions to prevent the pipe from floating due to water entering the trench from any source. The Contractor shall be responsible for damage caused by floating pipe and shall, at his sole expense, restore and replace the pipe to its proper condition, alignment and grade.

Where pipe is laid on a curve or at horizontal or vertical angles in the trench, the maximum deflection at the joint shall not exceed sixty (60) percent of the limitations specified by the pipe manufacturer and each joint shall be adequately blocked to take the thrust until properly backfilled.

Location tape shall be installed over all pipelines. The tape shall be securely attached to each valve box and shall be continuous between adjacent valves. The tape shall be installed 12"

below the finish grade, and in the case of two pipes in a single trench the tape shall be installed at midpoint between the pipes.

4-02 HAULING AND UNLOADING PIPE

During loading, transportation and unloading, every precaution shall be taken to prevent injury to the pipe, its lining and its coating. None of the pipe shall be dropped from cars or trucks nor allowed to roll down skids without proper restraining ropes. Each pipe shall rest upon suitable pads, strips or blocks during transportation and while awaiting installation in the field, and shall be securely wedged or tied in place. Padding shall be used on all car stakes, skids and other material to prevent damage of the coating during transportation and handling.

Where necessary to move the pipe longitudinally along the trench, it will be done in such a manner as not to injure the pipe or its coating. Pipe shall not be rolled or dragged on the ground.

Where pipe is placed in stock piles, it shall be neatly piled and blocked with strips between tiers.

4-03 PROTECTION OF WORK AND MATERIALS

The Contractor shall at all times take care to protect and preserve all materials to be used in the laying of the pipe. The pipe shall be handled in such a manner as not to injure its shape. All pipe and materials which, in the opinion of the Water Company, have been damaged shall be replaced by the Contractor at his own expense.

The Contractor shall be responsible for the safe storage of all material furnished by him until it has been incorporated in the completed project. All material damaged or broken by the Contractor, shall be replaced in exact type and kind by the Contractor at his expense. All materials received by the Contractor and not used shall be removed by the Contractor at his expense.

4-04 HANDLING OF PIPE AND ACCESSORIES

Pipe and accessories shall be loaded at the point of delivery, hauled to, and distributed at the site of the project by the Contractor at his expense. They shall at all times be handled with care to avoid damage. Whether moved by hand, skyways or hoists, material shall not be dropped or bumped against pipe or accessories already on the ground or against any other object on the ground.

In distributing material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench.

Pipe shall be handled in such a manner as to avoid damage to machined or special ends. When such damage cannot be repaired to the Water Company's satisfaction they shall be replaced by the Contractor at his expense.

The interior of all pipe and accessories shall be kept free from dirt and foreign matter at all times.

All pipe, fittings and accessories shall be carefully lowered into the trench in a workmanlike manner, using proper tools and equipment. Under no circumstances shall pipe or accessories be dropped or dumped into the trench.

4-05 INSTALLATION OF PVC MAINS

All pipe shall be tested in the United States in accordance with AWWA C900 and C-905 and certification of the testing shall be furnished to the Water Company and Design Engineer upon his request prior to delivery. The Water Company and Design Engineer may be present during physical testing of pipe.

4-06 INSTALLATION OF DUCTILE IRON PIPE

The ductile iron water mains shall be laid and the work incidental thereto performed in accordance with applicable requirements of A.W.W.A. C600 "Standards for Installation of Cast Iron Water Mains."

All pipe shall be carefully inspected for defects before installation. Such inspection shall include light tapping with a hammer while the pipe is suspended in the air. No pipe or fitting which is cracked or which shows defects excluded by the Specifications for such fittings shall be used. Any injuries to the protective coating of the pipe or fittings shall be carefully repaired by the Contractor with coat tar pitch varnish. The pipes, valves, and fittings shall be carefully cleaned immediately before installation. Every open end of a pipe shall be carefully plugged or capped before leaving the work.

4-07 FIRE HYDRANT ASSEMBLY INSTALLATION

Fire hydrants shall be installed by the Contractor at the locations shown on the accompanying Plans in accordance with details show on Std. Dwg. W-6 herein, and positioned to provide

complete accessibility and to minimize the possibility of damage from vehicles or injury to pedestrians. The size and type of hydrant shall correspond to the designation shown on the Plans. The entire hydrant assembly shall be plumb. Nozzles shall be at right angles to the street or as directed by the Water Company. The hydrant shall be located so that the centerline of the riser or barrel is approximately twenty-four (24) inches in back of the curb face or face of berm or the edge of the street pavement unless otherwise directed.

The Contractor shall provide and install all necessary fire hydrant bury extensions to permit installation of the hydrant assembly to proper grade. The Contractor shall be responsible for determining proper grade.

The Contractor shall make certain that the automatic drain openings of the fire hydrant are satisfactorily plugged before installation.

Upon completion of the water main installation and after the field tests have been performed, each fire hydrant shall be operated by the Contractor in the presence of the Water Company representative. Operation shall consist of opening the fire hydrant assembly and allowing water to flow freely from one or more of its outlets. Upon completion of this sequence, the fire hydrants shall be turned off and all protective caps properly placed on each outlet.

4-08 VALVE INSTALLATION

Valves shall be installed at the locations shown on the Plans and shall correspond to the size and types of ends shown on the plans. All valves shall be equipped with a valve box and cap.

The cutting of pipe for inserting into the bells of valves shall be done in a neat and workmanlike manner without damage to the pipe, its coating or lining and in accordance with the manufacturer's instructions.

Except as directed by the Water Company, the Contractor shall not operate gate valves without a Water Company representative present. During the course of water main installation, all valves shall be left completely open or completely closed unless otherwise authorized by the Water Company. Upon completion of the water mains and all appurtenances, all valves shall be operated through a complete open and closed cycle by the Contractor in the presence of the Water Company representative. After completion of this operational cycle, all valves shall be left in an OPEN position unless directed otherwise by the Water Company.

4-09 VALVE BOX AND CAPS

Valve boxes and caps to be installed in proposed pavement areas of presently unpaved street rights-of-way shall be installed ten (10) inches below finished grade of street or such greater depth as determined by the Water Company. The Contractor shall be responsible for future location of all valve boxes and caps until completion of paving. At least two properly designed witness markers shall be provided and installed by the Contractor to aid future location of valve boxes and caps.

When installed in paved areas, the valve cap shall be installed with its top one-quarter (1/4) inch above finished grade, and feathered into the existing pavement.

4-10 BLOW-OFF ASSEMBLY INSTALLATION

Blow-offs shall be installed by the Contractor at the locations shown on the plans and in accordance with the details shown on Std. Dwg. W-7A & B herein. The entire assembly shall be plumb with nozzles at right angles to the street or as directed by the Water Company.

Blow-offs shall be located to provide complete accessibility and to minimize the possibility of damage from vehicles or injury to pedestrians.

Upon completion of the water main and system installation, each Blow-off shall be operated by the contractor in the presence of the Water Company representative. Operation shall consist of opening the hydrant head on the assembly and allowing water to flow freely from its outlet. Upon completion of this sequence, the Blow-off assembly shall be turned off and all protection caps properly placed on the outlet.

4-11 AIR AND VACUUM ASSEMBLY

Air and vacuum assemblies shall be installed at the locations indicated on the Plans at sites adjacent to the roadway or on back lot lines as selected by the Water Company. They shall be completely accessible and protected from possible damage from vehicles or equipment. The assemblies shall be installed in accordance with details shown on Std. Dwg. W-8A & B herein, in a workmanlike manner and in accordance with accepted water works standards. Pipe joints shall be assembled in a proper manner to assure that they are free of leaks.

4-12 SERVICE INSTALLATION

Service connections shall be installed at the locations designated by the Water Company and per details shown on the Plans and in accordance with details show on Std. Dwg. W-4 and W-5 herein. Service stubs shall be installed in a like manner and in accordance with accepted water works standards, with a minimum cover of thirty (30) inches.

4-13 CONCRETE ENCASEMENTS

Concrete encasement shall be installed in a manner to completely surround the pipe barrel at all water course crossings to provide protection from flood flows and eliminate possible water infiltration. The entire procedure shall be in accordance with the pipe manufacturer's recommendations, and Standard Drawing No. W-15 as approved by the Water Company.

4-14 THRUST BLOCKS

Concrete thrust blocks shall be installed at all dead ends, tees, elbows, bends, crosses, blow-offs, drains and fire hydrants shown on the Plans. The thrust blocks shall be adequate in size to provide for a test pressure on the size of pipe under consideration per Std. Dwg. W-17.

Thrust blocks shall be constructed of concrete between the fitting of pipe and the trench wall. The concrete shall be placed so that it extends to the trench wall in a manner that enables the entire bearing area to be in contact with undisturbed freshly cut material.

Concrete shall be kept behind the bell of the fitting and shall not be permitted to run against the pipe. Concrete shall be kept clear of all bolts on flanged fittings to enable proper future removal of all such belts.

4-15 FLANGED FITTINGS AND CONNECTIONS

All Flanged valves and fittings shall be properly positioned and aligned in the trench in such a manner as to relieve any stress or strain on the connecting pipe or flanged and being fitted, with the pipe system resting in its final position and all fittings and valves plumb. Welding, if required, shall be made in the trench bottom, except where otherwise approved by the Water Company.

4-16 FLEXIBLE COUPLINGS WITH TIE DETAILS

Where flexible couplings are installed in steel water lines the coupling may be provided with tie rods in lieu of thrust blocks for short runs.

4-17 CONNECTION WITH EXISTING SYSTEM

Connections with the existing system will be made by the Water Company or approved licensed contractor at the locations indicated on the Plans per details shown on the Plans. All material necessary for making the system connections shall be furnished by the Contractor.

The outlet of the system connection will be flanged gate valve equipped with a blind flange. The Contractor shall remove and salvage the blind flange and make the pipe extension at the direction of the Water Company.

4-18 BAFFLES

When the natural slope of a traveled roadway or access roads is greater than 15%, baffles shall be installed at the top of the trench. These baffles shall be constructed of a 2" x 12" redwood plank set on edge at the top of the trench. The plank shall be two (2) to three (3) feet wider than the trench and shall be held in place by 2" x 4" redwood stakes driven into the natural ground on the downhill side of the baffle. These stakes shall be driven a minimum of two (2) feet into solid ground. The top of the baffle shall be set two (2) to three (3) inches above the surface of the adjacent ground and the trench backfill shall be increased so as to be flush with the top of the baffles throughout the area in which they are installed. Baffles shall start at the top of the slope with spacing based on the following schedule:

SLOPE GRADIENT	BAFFLE SPACING
15%	20 Feet
20% (5:1)	15 Feet
25% (4:1)	12 Feet
33% (3:1)	9 Feet
50% (2:1)	7 Feet
67% (1-1/2:1)	5 Feet

4-19 DISINFECTION

During the laying of the pipelines covered by these specifications, they shall be carefully protected against contamination, and all dirt and foreign material shall be removed. Before

being placed in service, the lines shall be thoroughly flushed out and then disinfected by the Contractor in accordance with A.W.W.A. C601, "Standards for Disinfecting Water Mains". All necessary chlorine shall be furnished by the Contractor. The main shall be thoroughly flushed before and after chlorination. If the first application of chlorine is sufficient to clear the mains of coliform bacteria, the procedure shall be repeated until the water will meet the bacteriological drinking water standards of Riverside and San Bernardino County's Health Departments and the State Department of Health Services. The Water Company will take samples for bacteriological testing. Tests that indicate acceptable disinfection will be at the Water Company's expense. Any tests that fail will be at the Contractor's expense.

SECTION 5
FIELD TESTS

5-01 GENERAL

After the pipe has been laid, backfilled and compacted, all laid pipe shall be given a pressure and leakage test. The test section should be tested with proper bulkheads rather than against a "closed" valve to preclude the problems associated with leaking valves. In no case shall a section of pipe which is connected to a potable system, be pressurized until that entire section has been disinfected and satisfactory bacteriological test results have been received by the Water Company.

Before conducting the field tests, the pipe shall be completely filled with water, and all free air shall be expelled from the line. Any additional taps, valves or blow-offs needed to assure all air is expelled shall be provided by the Contractor. Water to be used to fill the pipelines will be furnished to the Contractor by the Water Company. The Contractor shall provide his own pumps and other equipment to properly fill the line with water and produce the required test pressures. The required pressures shall be measured at the point of lowest elevation in the line to be tested.

Should any test of a section of pipeline disclose joint leakage, the Contractor shall, at his own expense, locate and repair the defective joints until the leakage is within the permitted allowance. The pipe shall then be retested by the contractor at his expense.

All thrust blocks forming a permanent part of the line to be tested shall be installed in ample time prior to the test to enable the concrete to properly set. The test end of the pipe shall be adequately braced to withstand the pressures that will result during the test.

The Water Company will not accept the pipeline until backfill and pavement operations are complete, all gate valve boxes are raised to proper grade and until the pipelines are probed free

from running leaks and other defects to the satisfaction of the Water Company. The acceptance of the dedication of the water system by the Water Company of the completed work as herein specified is a subject to the written guarantee of the Contractor that any defects, excessive settlement of backfill and/or running leaks in such pipelines arising from defective workmanship or by any negligence of the contractor which may develop within one (1) year from such acceptance, shall be repaired and made good by said Contractor in accordance with the provisions of Section 6 entitled "Guarantee".

5-02 PRESSURE TESTS

The pressure test shall be performed with a Water Company approved pressure gauge prior to conducting the leakage tests set forth in 5.03 herein. The pressure test shall consist of maintaining a pressure of one hundred seventy five (175) pounds per square inch continuously for a period of at least two (2) hours.

5-03 LEAKAGE TESTS

The leakage test shall be conducted after completion of the pressure test prescribed in 5-02 above. The test pressure shall not drop below one hundred fifty (150) pounds per square inch (psi) and shall be maintained for at least four (4) hours. The leakage shall be measured by determining the quantity of water required to maintain the test pressure. Regardless of the rate of leakage, all visible leaks shall be stopped.

Unless another method is approved, measurement of leakage shall be by positive displacement measurement of water pumped out of an open container after the pipeline test pressure has been obtained and stabilized or through the use of the Water Company supplied meter. The container shall be of a size and shape to allow simple and accurate determination of capacity and change in volume.

No pipe installation will be accepted for dedication by the Water Company until or unless the leakage for the section of line tested is less that the rate of leakage specified herein.

The quantity of water lost from the main shall not exceed the number of gallons per hour as determined by the formula: L = ND(P)(0.5) / 7400

L = Allowable leakage, gallons/hour

N = No. of joints in the length of pipeline tested

D = Nominal diameter of the pipe in inches

P = Average test pressure during the leakage test, psi

5-04 COMPACTION TESTS

Compaction tests of the trench backfill is required approximately every 250 feet, or more often if tests indicate the need, along the alignment of the main pipeline. In addition, approximately 20 percent of all laterals within the street right-of-way shall be tested. Location of tests will be determined by the General Manager. Additional tests may be required at the Water Company's discretion. The tests shall be made at varying depth. Compaction tests which meet the specified requirements shall be made at the Water Company's expense through an approved soil testing laboratory. All compaction tests which do not meet the specified requirements shall be at the Contractor's expense without any compensation therefore. Any additional requirements of governing bodies having jurisdiction must be met. If the work is done under a permit, the Contractor shall obtain written confirmation that the work is acceptable to the governing body having jurisdiction.

2023

County Standard Specifications

COUNTY STANDARD SPECIFICATIONS

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The publications referred to herein are as follows:

- Standard Specifications of the California Department of Transportation, latest issue
- "Greenbook", Standard Specifications for Public Works Construction, latest issue
- American Society for Testing Materials (ASTM), Standards and subsequent revisions
- American Association of State Highway and Transportation Officials (AASHTO), Parts I and II, latest edition
- American Water Works Association (AWWA), latest edition
- American National Standard Practice for Roadway Lighting, American National Standards Institute (ANSI)
- Department of Health Services' publication "Criteria for the Separation of Water Mains and Sanitary Sewers, latest edition
- California Waterworks Standards, California Administrative Code
- City of Los Angeles Department of Transportation Special Provisions and Standard Drawings for the Installation and Modification of Traffic Signals "Red Book"

1. **DEFINITIONS**

- **1.01 Director of Transportation:** Shall mean the Director of Transportation of the County of Riverside, California, and any duly appointed deputies, inspectors or agents, as referred to herein.
- **1.02 County Standard Specifications:** Shall mean this document as approved by the County of Riverside Board of Supervisors by County Ordinance.
- **1.03 Caltrans Standard Specifications:** As herein referred to shall mean the Standard Specifications of the State of California, Department of Transportation, latest issue published on the Caltrans Website.
- **1.04 Caltrans Standard Plans:** As herein referred to shall mean the Standard Plans of the State of California, Department of Transportation, latest issue published on the Caltrans Website.
- 1.05 Contractor: As herein referred to shall mean the agency or individual engaged in doing the work, and furnishing the materials herein discussed. Said Contractor shall represent the Developer insofar as the execution of the work shall be concerned, and it will be assumed that he has been so authorized by the Developer.
- 1.06 Agreement: As herein referred to shall mean the formal Subdivision Improvement Agreements entered into with the Board of Supervisors of the County of Riverside by the Subdivider, as completed and executed by both parties. Said Agreements to set forth all requirements for improvement of the subject Subdivision, including roads, water supply systems, drainage structures, sewers, monuments or other work as set forth therein.
- 1.07 Plans: The plans, profiles, detail sheets or other drawings or instructions as prepared by a Registered Civil Engineer in the State of California on behalf of the Developer to delineate the nature and scope of the improvement work to be done on the proposed Project. Said Plans are to be signed by the Director of Transportation as to substantial compliance with the County Road Standards and County Standard Specifications. Full responsibility for the design shown on the Plans rests with the Developer's Engineer that signed and stamped the Plans.
- **1.08 Project Specifications:** The approved project-specific specifications comprised of Caltrans Standard Specifications, County Standard Specifications, special provisions, or a combination thereof.
- **1.09** County Road Standards: Standard drawings as prepared by the Director of Transportation and adopted by Ordinance, showing the nature of the various items of improvement work to be done and/or made a part of the Agreement.
- **1.10 Engineer:** An authorized representative of the Director of Transportation acting within the scope of his designated authority in the detailed inspection of the work.
- **1.11 Developer's Engineer:** A Registered Civil Engineer in the State of California responsible for the Plans and Project Specifications who is authorized to represent the Developer.
- **1.12 Subdivider:** Any person, firm, corporation, partnership or association who caused land to be divided into a Subdivision for himself or for others and has executed an Agreement with the County.

- **1.13 Developer:** Any person, firm, corporation, partnership or association who intends to cause improvements to be constructed within on real property and/or the public road right-of-way, including but not limited to Subdividers.
- **1.14 Acceptance:** Completion of all work in accordance with approved Plans and Project Specifications; in conformance with County of Riverside Ordinance 461, Road Improvement Standards and Specifications; and release of Securities by the Director of Transportation.
- **1.15 Laboratory:** The established Laboratory of the County of Riverside Transportation Department or other laboratories approved by the Engineer to test materials and work involved in the Agreement.
- **1.16 Terms and Definitions:** In lieu of the following terms and definitions as used in Section 1 of the Caltrans Standard Specifications, the intent and meaning shall be interpreted as follows:
 - A. DEPARTMENT OF TRANSPORTATION. Shall mean the Board of Supervisors of the County of Riverside and Transportation Department, County of Riverside.
 - B. STATE or STATE OF CALIFORNIA. Shall mean the County of Riverside.

2. INSPECTION AND TESTING

- 2.01 Conformity with Agreement Documents and Allowable Deviations: Work and materials shall conform to the lines, grades, cross sections, dimensions and material requirements including tolerances, shown on the Plans or indicated in the Project Specifications. Although measurement, sampling and testing may be considered evidence as to such conformity, the Engineer shall be the sole judge as to whether the work or materials deviate from the Plans and Project Specifications, and his decision as to any allowable deviations therefrom shall be final.
- **2.02 Lines and Grades:** Such stakes or marks will be set by the Developer as the Engineer determines to be necessary to establish the lines and grades required for the completion of the work specified in Plans, County Road Standards, and Project Specifications.
- **2.03 Advance Notice:** At least forty-eight (48) hours advance notice shall be given the Director of Transportation and/or their appointed agents when requesting inspection and no paving or concrete operations will be permitted except in the presence of an inspector.
- **2.04 Inspection:** The Contractor or Developer shall at all times provide safe access for inspection of the work by the Director of Transportation and/or their appointed agents; and to any shops, plants, or areas wherein materials or portions of the work are in process.
- **2.05 Materials Testing:** Unless otherwise permitted in the Agreement, all materials tests shall be performed in accordance with the current published method as specified and used by the following agencies:
 - A. American Society for Testing and Materials.
 - B. American Association of State Highway and Transportation Officials.
 - C. Published Federal Specifications (Airports, etc.) (If applicable).

- D. Test Methods as developed by Materials and Research Department California Department of Transportation, Sacramento, California.
- E. Should the Developer be authorized to use a private Laboratory for control of the work, and in the event that said Laboratory desires to perform the materials testing by methods not specified in County Standard Specifications, such testing methods will be submitted to the Engineer for approval together with all required data necessary to substantiate the validity of the testing results obtained by using such methods. Following a review of this proposal, the Engineer may indicate his approval of the use of such non-standard testing methods on the project.
- 2.06 Samples: In general, all samples for testing will be taken by the Director of Transportation and/or their appointed agents from material at, or delivered to the site of the work, and such material should be available in ample time before intended use to allow for such testing. In the event that control testing for the work is performed by a private Laboratory, the Director of Transportation reserves the right to stipulate the number and location of those control tests which will relate to ultimate Acceptance of the work by the Transportation Department.
- 2.07 Removal of Rejected and Unauthorized Work: All work which has been rejected shall be remedied or removed and replaced in an acceptable manner. Any work done beyond the lines and grades shown on the Plans or established by the Engineer, or any work done without written authority will be considered as unauthorized work. Upon order of the Engineer, work shall be remedied, removed, or replaced at no expense to the Transportation Department.
- 2.08 Equipment: The Contractor shall provide adequate and suitable equipment to meet the above requirements, and when ordered by the Engineer shall remove unsuitable equipment from the work.
- **2.09 Final Inspection:** When the work has been completed, the Engineer will make the final inspection.

3. MATERIALS

- 3.01 Quality of Materials: In general, materials shall be new, and of a quality equal to that specified. Any material equal to that specified, in the opinion of the Director of Transportation will be approved, provided a proper request for substitution is submitted containing sufficient data or information on the article or material to permit investigation and decision. Unless such a request is made, no substitutions will be permitted. Should it be proposed to include any materials in the work not covered within County Standard Specifications, said material will, in general, be required to conform to all details of its fabrication, composition and manufacture to the applicable designation specified for the material or article in the current publications of the American Society for Testing Materials (ASTM).
- 3.02 Specified Material: Certain materials shall be of the grades or types specified by the Director of Transportation and said materials will be so specified in the formal Agreement with the Developer or will be shown on the approved Plans of the work. Unless otherwise provided in the Agreement, all materials will be furnished by the Contractor.

3.03 Certificate of Compliance: The Engineer may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a Certificate of Compliance stating that the materials involved comply in all respects with the requirements of the County Standard Specifications. The certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials. A Certificate of Compliance must be furnished with each lot of material delivered to the work and the lot so certified must be clearly identified in the certificate.

All materials used on the basis of a Certificate of Compliance may be sampled and tested at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the work which conforms to the requirements of the Plans and Project Specifications and any such material not conforming to such requirements will be subject to rejection whether in place or not.

The County reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance.

3.04 Local Material: Local material is defined as rock, sand, gravel, earth, or other mineral material obtained or produced from sources in the vicinity of the work specifically for use on the project. Local material must not be a material obtained from established commercial sources.

When requested by the Contractor or Developer in writing, the County will test materials from any local source which has not been previously tested. If the material passes the County administered tests, it is deemed satisfactory to be used in the work. The County will charge for administering the tests.

- 3.05 Disposal of Excess Excavation or Materials: Excess earth excavation or other materials resulting from construction operations shall be disposed of by the Contractor outside of the right-of-way. Material becomes Contractor's responsibility and shall be disposed at an established disposal facility or private property with valid grading/stockpiling permit. County shall have release of liability from disposal.
- 3.06 Specific Brand or Trade Name and Substitution: The Contractor or Developer may request in writing to use a product that is equal to or better than the specified brand or trade name. The request shall include substantiating data that proves the substitution causes no delay and is of equal or better quality and suitability.

4. SCOPE OF THE WORK

- **4.01 General:** The scope of the work shall be set forth in the Agreement with the Developer, as shown on the Plans, County Road Standards, and as specified in the Project Specifications, or as directed by the Director of Transportation.
- 4.02 Alterations in the Work: Minor changes in the work due to unforeseen local conditions shall not be made without prior approval of the Director of Transportation. Major alterations in design or standard of work will only be permitted following execution of an amended Agreement and any work performed prior to the completion of such an amended Agreement will be performed at the owner's risk.

5. OBSTRUCTIONS

- **5.01 Utility Facilities:** Any relocation of existing power, telephone poles, sewers, waterlines, gas lines, or other utility installations necessary to clear the limits of the proposed work shall be the responsibility of and paid for by the Developer, and they shall make all necessary arrangements with the owners thereof.
- **5.02 Existing Facilities:** Revisions or relocations of existing Transportation Department installations shall be shown on the Plans. In addition, the Contractor will be required to cooperate with Transportation Department personnel on the work as may be necessary to maintain proper public service. The Contractor shall protect any existing signs, culverts or other highway facilities during their operations and will be liable for any damage to same.
- 5.03 Trees: Tree removal as shown on the Plans or as directed by the Engineer shall be the responsibility of the Developer and shall be removed to a depth of 2 feet below the finish grade, including stump grinding. An existing tree whose trunk face is located closer than eight feet from the face of the curb shall be removed unless otherwise specifically directed by the Director of Transportation. In addition, a fixed object (such as a tree) shall have clearance of eight feet minimum from the edge-of-travel-way (ETW) and four feet minimum from the edge-of-pavement (EP) in accordance with County Road Standard No. 820.

6. PUBLIC SAFETY

- 6.01 Laws to be Observed: The Contractor shall keep himself fully informed of all existing State and Federal laws and County and local ordinances and regulations which in any manner affect those engaged or employed in the work or the materials used in the work, or which in any way affect the conduct of the work. They shall at all times observe and comply with, and shall cause all of their agents and employees to observe and comply with, all such existing laws, ordinances, regulations, orders and decrees of bodies or tribunals having any jurisdiction or authority over the work; and shall protect and indemnify the County of Riverside, and all of its and their officers and agents and servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulations, order or decree, whether by themselves or their employees. If any discrepancy is discovered in the Plans, County Road Standards, County Standard Specifications, or Agreement for the work in relation to any such law, ordinance, regulations, order or decree, the Contractor shall forthwith report the same to the Director of Transportation in writing.
- **6.02 Permits and Licenses:** The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices pertinent or incidental to the lawful execution of the work. The Contractor shall an encroachment permit from the Transportation Department for the various types of encroachment activities within County public right-of-way listed on County's website.
 - http://rctlma.org/trans/Land-Development/Permits/Encroachment-Permit-Informational-Brochure-Fees)
- **Public Convenience:** The Contractor shall so conduct their operations as to offer the least possible obstruction and inconvenience to public traffic, and they shall have under construction no greater length or amount of work than they can actively prosecute. On existing roads, unless otherwise provided in the Agreement, traffic shall be permitted to pass though the work with as

little inconvenience and delay as possible. Spillage of materials resulting from hauling operations along or across the traveled way shall be removed immediately. Spillages of hazardous materials must be promptly reported to the Engineer. Existing traffic signal and highway lighting systems shall be kept in operation for the benefit of the traveling public during progress of the work, and other forces will continue routine maintenance of existing systems. When existing traffic signal detector loops are rendered inoperable at any time during construction, the Contractor shall install and maintain temporary video detection in coordination with the Engineer and in accordance with County Standard Specifications.

Convenience of abutting owners along the road shall be provided for as far as practicable. Convenient access to driveways, houses, and buildings along the line of the work shall be maintained by the Contractor and temporary approaches to crossings or intersecting highways shall be provided and kept in good condition.

In order to expedite the passage of public traffic through or around the work, the Contractor shall install and maintain signs, lights, barricades and other facilities for the sole convenience and direction of public traffic. Such warning systems and devices shall be approved by the Director of Transportation. Also, when so directed by the Director of Transportation they shall provide and station flagmen whose sole duties shall consist of directing the movement of public traffic through or around the work.

Water or dust palliative shall be applied if ordered by the Engineer for the alleviation or prevention of dust nuisance. Applicable provisions of Section 10-5 "Dust Control", Section 14-9 "Air Quality", Section 10-6 "Watering", and Section 18 "Dust Palliative" of the Caltrans Standard Specifications; Rules no. 401, 402, 403 and 403.1 of the South Coast Air Quality Management District (AQMD); Riverside County Code, Chapter 8.52 "Fugitive Dust Reduction Program for Coachella Valley; and all other applicable Federal and State laws.

6.04 Public Safety: Whenever the Contractor's operations create a condition hazardous to traffic or to the public, Contractor shall furnish at their own expense such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions to be encountered and he shall furnish, erect and maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents, and avoid damage or injury to the public. Flagmen and guards while on duty and assigned to give warning to the public that the highway is under construction and of any dangerous conditions to be encountered as a result thereof shall be equipped in compliance with California Occupational Safety and Health Administration (Cal/OSHA) Standards. Flags, signs, lights, and other warning and safety devices shall conform to the requirements set forth in the current State of California Manual on Uniform Traffic Control Devices (CA MUTCD) and any signs furnished and erected by the Contractor shall be at his own expense.

Should the Contractor appear to be neglectful or negligent in furnishing and maintaining warning and protective measures as above provided, the Director of Transportation may direct attention to the existence of a hazard and the necessary warning and protective measure shall be furnished and installed by the Contractor at his own expense without cost to the County. Should the Director of Transportation point out the inadequacy of warning and protective measures, such action on the part of the Director of Transportation shall not relieve the Contractor from responsibility for public safety or abrogate his obligation to furnish and pay for these devices.

No material or equipment shall be stored where it will interfere with the free and safe passage of public traffic, and at the end of each day's work and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstruction from that portion of the roadway open for use by public traffic.

6.05 Use of Explosives: When the use of explosives is necessary for the prosecution of the work, the Contractor shall use the utmost care not to endanger life or property. Contractor must obtain necessary local, state and/or federal permits required prior to the use of explosives.

All explosives shall be stored in accordance with the provisions of Division XI of the Health and Safety Code. Attention is called to local ordinances involving the use or storage of explosives and for excavating rock by blasting shall conform with applicable provisions of Section 19-4 of the Caltrans Standard Specifications.

6.06 Lane Closure: Lane closures shall conform to the most current State of California Manual on Uniform Traffic Control Devices (CA MUTCD). Should it be necessary for the lane closure to remain in place after standard work hours, the Contractor shall provide a traffic control plan prepared and signed by a Traffic Engineer registered in the State of California. Lanes shall be opened back to Traffic after 2 weeks of no active work in the closure area. Standard work hours are from 7:00 am to 6:00 pm pursuant to Ordinance 847.

7. CLEARING AND GRUBBING

- **7.01 General:** Clearing and grubbing operations shall conform with the provisions of Section 17 of the Caltrans Standard Specifications and the details shown on the Plans.
- 7.02 Concrete Removal, Structure Removal or Pavement Removal: This construction activity shall be considered a part of the clearing operation and shall conform with the applicable provisions of Section 15-1, Section 41-11 or Section 60-2 of the Caltrans Standard Specifications. Such removed materials shall be disposed of as elsewhere provided herein or as approved by the Engineer. When portions of existing concrete or paved surfaces are to be cut back to provide for joining or widening, such surfaces shall be sawed or otherwise cut to neat lines.

8. EARTHWORK

8.01 General: Included under the term "Earthwork" will be all operations involved in grading roadway excavation or embankment construction required to bring the roadway section to the approved grade, and such drainage and structure excavation and backfill as may be required by the approved Plans. These operations to include the performance of all incidental work required to construct the roadway subgrade and the approaches thereto, and to maintain them in the form specified until the final Acceptance by the County.

All earthwork shall conform with the applicable provisions of Section 19 of the Caltrans Standard Specifications except as herein modified.

8.02 Relative compaction requirement of at least 95 percent for at least a depth of 2.5 feet below the finished grade for the width of the traveled way plus 3 feet on each side shall not be required.

This provision will not preclude the necessity of conforming to the provisions of the relative compaction requirement of Section 19-5 of the Caltrans Standard Specifications.

- **8.03 Watering:** Embankments and subgrade shall be watered or sprinkled during construction so as to obtain the specified relative compaction of the material included therein.
- **8.04 Ditches and Channels:** Drainage inlet and outlet ditches and channels shall be constructed to lines and grades shown on the approved Plans and profiles and as specified in Section 19-2 of the Caltrans Standard Specifications. Channels shall be constructed upstream and downstream of all culverts as necessary to insure proper capacity for same.
- 8.05 Structural Section Design of Roadbed: Unless otherwise approved by the Director of Transportation, structural section design requirements for the combined thickness of asphalt concrete (AC) and aggregate base (AB) surfacing will be determined by an accepted rational system of design, employing soil testing procedures; and the necessary sampling, testing and the design of the aggregate base and asphalt concrete surface courses will be performed by the County Materials Laboratory, unless otherwise provided in the Agreement. All street structural sections are tentative. Additional soil tests will be taken after rough grading to determine the exact street structural section requirements. The structural section shall be in accordance with County Road Standards and approved by the County Materials Engineer.

The table below lists the minimum asphalt concrete thickness for each of the road types. The road type and traffic index shown are in accordance with County Road Standard No. 114.

Road Type	Traffic Index	Minimum Structural Section ^{1,2} Thickness (feet)
Access Road 3	5.5	0.25' AC / 0.50' AB
Short Local Street 4	5.5	0.25' AC / 0.50' AB
Exterior & Local Street 4	5.5	0.25' AC / 0.50' AB
Enhanced Local Street at		
School or Park	6.5	0.30' AC / 0.50' AB
Collector	7.0	0.35' AC / 0.50' AB
Industrial Collector	8.0	0.40' AC / 0.50' AB
Secondary Highway	8.5	0.45' AC / 0.50' AB
Major Highway	9.0	0.45' AC / 0.50' AB
Mountain Arterial Highwa	y 9.5	0.50' AC / 0.50' AB
Arterial Highway	9.5	0.50' AC / 0.50' AB
Urban Arterial Highway	10.0	0.55' AC / 0.50' AB
Expressway	11.0	0.60' AC / 0.50' AB

NOTES:

- 1. The minimum thickness for the Class 2 Aggregate Base is 0.50 feet.
- 2. The Transportation Department accepts alternate structural sections including full depth asphalt concrete or multi-layered aggregate subbase, lime or cement treated bases overlaid with Class 2 Aggregate Base. The thickness of the Class 2 Aggregate Base in these instances can be less than 0.5 feet provided the gravel equivalency of the total structural section is maintained.
- 3. For access roads, if the ultimate road classification is a General Plan Highway, the traffic index requirement is 7.0.

4. When the asphalt concrete section is constructed in two courses (base course and surface course), the construction of the asphalt concrete courses shall be placed as follows: (a) the bottom lift (base course) shall have a minimum thickness of 0.15 foot using 1/2-inch size aggregate or 0.20 foot using 3/4-inch size aggregate and (b) the top lift (surface course) shall be 0.15 foot using 1/2-inch size aggregate.

9. FINISHING ROADWAY

- **9.01 General:** Upon completion of all construction operations, the entire street system shall be finished and cleaned in accordance with the provisions of Section 22 of the Caltrans Standard Specifications and these Special Provisions.
- **9.02 Shoulders:** Roadways shoulders shall be trimmed and shaped to conform with the requirements of the approved typical section. This will include grading on optimum slope to the property lines if so directed. Included in this portion of the work shall be additional clearing, grubbing, or removal of debris not previously completed by the Contractor.
 - Concrete curbs-and-gutters, and cross-gutters shall be broomed clean and flushed with water to insure proper drainage. Any underground drainage systems or storm drain facilities shall be thoroughly flushed out to insure proper operation.
- **9.03 Appurtenances:** Street name signs, barricades and warning devices shall be completed and in place.
- **9.04 Monuments:** Unless otherwise approved by the Director of Transportation, all survey monuments located within the improved street area shall be in place and pavement cuts neatly patched.
- **9.05 Final Cleanup:** Prior to inspection and Acceptance of the completed work, all items of finish work as outline above must be completed.

10. BASE MATERIALS

- **10.01 General:** Base material to be used in construction of the upper layers of the roadbed shall consist of the following material classifications for the respective Land Division Schedules as identified in County of Riverside Ordinance 460.
 - A. Aggregate Base, Class 3 or Disintegrated Granite Schedule D H & I Land Division
 - B. Aggregate Base, Class 2 Schedule A, B, C, E, F & G Land Division
 - C. Lime Treated Base
 - D. Cement Treated Bases

NOTE: When roads are accepted for maintenance by the County, the aggregate base shall be Class 3 or higher. Disintegrated granite may be substituted for aggregate base when approved by the County Materials Engineer. When there is concrete curb and gutter, a Class 2 aggregate base shall be used.

The exact type of base material to be used on the work will be specified in the Agreement and shown on the Plans.

10.02 Disintegrated Granite: Disintegrated granite shall be clean and free from roots, vegetable matter and other deleterious substances, and be of such character that when wet it will compact to form a firm stable base. Disintegrated granite shall be any igneous rock, which has been weathered in place, or any sedimentary material principally derived from igneous rock. The material shall be of such sizes that the percentage composition by weight of material shall conform to the following grading at the time the material is deposited on the roadbed when determined by California Test Method (CTM) No. 202.

Sieve Size	Percentage Passing Sieve
1 inch	90 - 100
No. 4	50 - 95
No. 30	20 - 60
No. 200	3 - 15

The material shall conform to the following requirements:

Tests	CTM No.	Requirements
Resistance ("R" Value)	301	70 Min.
Sand Equivalent	217	30 Min.

10.03 Aggregate Base, Class 3: Aggregate Base, Class 3 shall conform to the provisions of Section 26 of the Caltrans Standard Specifications. Aggregate may include material processed from reclaimed asphalt concrete, Portland cement concrete, lean concrete base, cement treated base, or a combination of any of these materials. The amount of reclaimed material shall not exceed 50 percent of the total volume of the aggregate used.

The material shall conform to the following quality requirements:

Property	CTM No.	Requirements
Resistance (R-value)	301	60 Min.
Sand Equivalent	217	21 Min.

10.04 Aggregate Base, Class 2: Aggregate Base, Class 2 shall conform to the provisions of Section 26 of the Caltrans Standard Specifications and as modified herein. Section 26 shall include the following provision: Aggregate for Class 2 aggregate base shall be free from organic matter and other deleterious matter and shall be of such nature that it can be compacted readily under watering and rolling to form a firm and stable base. Aggregate may consist of broken and crushed asphalt concrete or Portland Cement Concrete and may contain crushed aggregate base (crushed rock and rock dust) or other rock materials. The material may contain no more than 3 percent brick by weight as determined by California test method 202 and as modified: Brick material retained on a No.4 sieve shall be identified visually and separated manually. Brick quantification shall be based on total weight of dry sample.

The Quality Requirements provisions contained in Section 26 for the Class 2 Aggregate Base shall be modified to read:

Property	Compliance Requirement
Resistance (R-value)	
Crushed Aggregate	80 Min.
Crushed Miscellaneous	78 Min.
Sand Equivalent	35 Min.
Durability Index	35 Min.
Percentage Wear	
100 revolutions	15 Max.
500 revolutions	52 Max.

- **10.05 Stabilized Soils:** Lime treated base shall conform to the provisions of Section 24 of the Caltrans Standard Specifications.
- **10.06 Cement Treated Base:** Cement treated base shall conform to the provisions of Section 27 of the Caltrans Standard Specifications.
- **10.07 Concrete Base:** Lean concrete or rapid strength concrete base shall conform to the provisions of Section 28 of the Caltrans Standard Specifications.

11. ASPHALT CONCRETE

11.01 General: Asphalt concrete shall be composed of mineral aggregate and asphalt binder, mixed in a suitable central mixing plant, and placed on the roadbed in accordance with County Standard Specifications and in conformity with the lines, grades and dimensions shown on the Plans and typical cross-sections. When required by the Director of Transportation, the Developer shall provide an asphalt concrete mix design as appropriate for the designated location, prepared under the direction of the Developer's Engineer registered in the State of California competent to perform the work.

Asphalt concrete shall be placed on the prepared subgrade or base course in one or more courses to the required thicknesses, grades and cross-sections as shown on the Plans and/or specified in the Agreement. All underground utilities shall be in place prior to paving.

In advance of spreading the asphalt concrete, a prime coat of liquid asphalt or asphaltic emulsion shall be applied to the areas to be surfaced if so indicated on the Plans. Prime coat shall be applied to all roadbeds to receive surfacing, which have a gradient of ten percent or greater.

11.02 Asphalt Concrete: Asphalt concrete shall be hot mix asphalt (HMA) Type A, rubberized HMA, or minor HMA conforming to Section 39 of the Caltrans Standard Specifications and these Special Provisions. The grade of asphalt binder for the HMA shall be of the Performance Grade (PG)

designated below or as determined by the Engineer and shall conform to the provisions in Section 92 of the Caltrans Standard Specifications.

- A. PG 64-10 (Inland Valleys)
- B. PG 64-16 (South Mountain)
- C. PG 70-10 (Desert)

The PG designation for rubberized HMA is PG 64-16 for all regions.

The use of reclaimed asphalt pavement (RAP) in HMA production may be substituted in a quantity up to 15 percent of the aggregate blend in the base course (bottom layer) only. When proposing to use more than 15 percent RAP, the HMA mix design shall be approved by the County Materials Engineer prior to its use. RAP will not be allowed in the surface course (top layer). RAP in rubberized HMA will not be allowed unless directed. RAP will not be allowed on all repaired asphalt concrete surfaces.

A Job Mix Formula (JMF) shall be submitted for each type of HMA proposed using the County of Riverside Transportation Department Contractor Job Mix Formula Proposal form. The JMF shall be signed and stamped by a Civil Engineer registered in the State of California and shall include records of aggregate quality and mix design documentation. Records and documentation shall be dated within 12 months of the last test performed.

The HMA mix design shall comply with the Hveem mix design method using California Test 367 and laboratory procedures in combinations of aggregate gradations and asphalt binder contents to determine the optimum binder content (OBC) and HMA mixture qualities. When proposing a Superpave (SP) HMA, the SP mix design shall be approved by the County Materials Engineer prior to its use. The SP mix design method shall be used for roads with Traffic Index of 9.0 or higher or as determined by the Engineer.

Laboratories testing the mineral aggregate and HMA qualities used to prepare the mix design and JMF shall be qualified under the State of California Department of Transportation's Independent Assurance Program.

Before production of HMA, the HMA plant must have a current qualification under the State of California Department of Transportation's Materials Plant Quality Program. Laboratories testing the HMA qualities shall be qualified under the State of California Department of Transportation's Independent Assurance Program.

11.03 Placing Asphalt Concrete: Asphalt concrete will not be permitted to be placed upon unstable, yielding or working subgrade.

In addition to the provisions in Section 39, "Construction" and "Spreading and Compacting Equipment" of the Caltrans Standard Specifications, asphalt paving equipment shall be equipped with automatic screed controls and a sensing device(s) or ski device(s). The use of a ski device will be required for roads with traffic index of 7.5 or higher. The ski device shall be a rigid one-piece unit with a minimum length of 30 feet and the entire length shall be utilized in activating the sensor.

When placing the initial mat of asphalt concrete on existing pavement, the end of the screed nearest the centerline shall be controlled by a sensor activated by a ski device not less than 30

feet long. The end of the screed farthest from centerline shall be controlled by an automatic transverse slope device set to reproduce the cross slope designated by the Engineer, by a sensor activated by a similar ski device or as directed by the Engineer. When paving contiguously with previously placed mats, the end of the screed adjacent to the previously placed mat shall be controlled by a sensor that responds to the grade of the previously placed mat and will reproduce the grade in the new mat within a 0.12 inch tolerance. The end of the screed farthest from the previously placed mat shall be controlled in the same way it was controlled when placing the initial mat.

Should the methods and equipment used fail to produce a layer of asphalt concrete conforming to the provisions, including straightedge tolerance, under "Constructions" of Section 39-2, Construction, of the Caltrans Standard Specifications or elsewhere in these County Standard Specifications, the paving operations shall be discontinued the equipment or methods shall be modified.

Hot mix asphalt shall be spread and compacted in the number of layers of the thicknesses indicated in the following table:

HMA Pavement Thickness Shown on Plans (ft)	No. of Layers ^a	Gradation
Less than 0.15	1	3/8 inch
0.15 to less than 0.20	1	1/2 inch
0.20 to less than 0.25	1 ^b	3/4 inch
0.25 or greater	2 or more c,d	3/4 inch or 1 inch

^a Top layer shall not contain RAP in the HMA mix.

In addition to the straightedge provisions in Section 36-3, "Pavement Smoothness" of the Caltrans Standard Specifications, asphalt concrete pavement shall conform to the surface tolerances specified herein.

When directed by the Engineer, the uppermost layer of asphalt concrete surfacing shall be profiled in the presence of the Engineer. Profiling will not be required for the following areas of the pavement surface but shall conform to the straightedge requirements in Section 36-3, "Pavement Smoothness" of the Caltrans Standard Specifications:

b If 1/2 inch grading is used, the HMA shall be placed in two layers.

^c Bottom and all other lower layers shall contain up to 15 percent RAP in the HMA mix or as approved by the Engineer.

d One layer of 0.25 foot for the 3/4 inch may be placed as approved by the Engineer.

- A. Roads with traffic index of 6.0 or lower.
- B. Pavement with a total thickness less than 0.24 foot.
- C. Pavement on horizontal curves with a centerline curve radius of less than 1000 feet and the pavement within the superelevation transition on those curves.
- D. Pavement placed in a single lift when required by the special provisions with a total thickness of 0.25 foot or less.
- E. Pavement with extensive grade or cross slope correction which does not receive advance leveling operations in conformance with the provisions in Section 39 under "Leveling" of the Caltrans Standard Specifications.
- F. Pavement for ramps and connectors with steep grades and high rates of superelevation, as determined by the Engineer.
- G. Shoulders and miscellaneous areas.

When using the Inertial Profiler, the profiling operation shall conform to California Test 387. The final HMA surface shall conform to the provisions of Pavement Smoothness in Section 39 of the Caltrans Standard Specifications. Pavements profiled shall conform to the following surface requirements:

- A. Surface shall have no areas of localized roughness with an International Roughness Index (IRI) greater than 160 in/mi.
- B. Surface shall comply with the Mean Roughness Index requirements as shown below for a 0.1 mile section:

HMA Thickness	Mean Roughness Index Requirement	
>0.20 foot	60 in/mi or less	
≤0.20 foot	75 in/mi or less	

When using the California Profilograph, the profiling procedure shall conform to California Test 526, except a zero (null) blanking band shall be used for determining the Profile Index. Prior to beginning profiles, the profilograph shall be calibrated in the presence of the Engineer. Two profiles shall be obtained within each traffic lane, 3 feet from and parallel with the edges of the lane. Pavements profiled shall conform to the following Profile Index requirements:

- A. Pavement on tangent alignment and pavement on horizontal curves having a centerline curve radius of 5940 feet or more shall have a Profile Index of 0.16 foot or less for each 330 feet section profiled.
- B. Pavement on horizontal curves having a centerline curve radius of 2970 feet or more but less than 5940 feet, including the pavement within the superelevation transition of these curves, shall have a Profile Index of 0.32 foot or less for each 330 feet section profiled.
- C. Pavement within any 330 feet section, containing high point areas with deviations in excess of 0.025 foot in a length of 25 feet or less, when tested in conformance with the requirements in California Test 526, shall be corrected by the Contractor regardless of the Profile Index.

Areas of the top surface of the uppermost layer of asphalt concrete pavement that do not meet the specified surface tolerances shall be brought within tolerance by abrasive grinding. Abrasive grinding shall be performed to reduce individual deviations in excess of 0.025 foot, and to reduce the Profile Index of the pavement to be within the specified tolerance. Areas which have been subjected to abrasive grinding shall receive a seal coat. Deviations in excess of 0.025 foot which cannot be brought into specified tolerance by abrasive grinding shall be corrected by either (1) removal and replacement or (2) placing an overlay of asphalt concrete.

11.04 Underground Installation: All underground facilities, including laterals, shall be in place and tested prior to paving the street section, including, but not limited to, the following: sewer, water, electric, gas, drainage, communications, cable TV, and irrigation. The Contractor shall provide written verification from the affected utilities of acceptable test results prior to proceeding with paving operations.

12. FOG SEALS AND CHIP SEALS

- **12.01 General:** A fog seal shall conform to Section 37-4 of the Caltrans Standard Specifications. A chip seal shall conform to Section 37-2 of the Caltrans Standard Specifications.
- **12.02 Description:** A fog seal shall consist of an application of a diluted slow-setting or quick-setting asphaltic emulsion to an existing asphalt pavement surface. The fog seal shall be applied at a rate of 0.02 to 0.06 gallon per square yard of surfacing. The exact rate of application of the emulsion will be determined at the time of application based on the age and surface texture of the pavement.
 - A chip seal shall consist of an application of a polymer modified asphaltic emulsion and stone screenings applied to the asphalt pavement surface. The chip seal shall use stone screening size of 5/16 inch with a spread rate of 16 to 25 pounds per square yard. The asphaltic emulsion shall be applied at rate of 0.25 to 0.35 gallon per square yard. The exact rate of application of the emulsion and the screenings will be determined at the time of the application by the Engineer.
- **12.03 Asphaltic Emulsion:** The asphaltic emulsion shall conform to the requirements of Section 94 of the Caltrans Standard Specifications.
- **12.04 Application:** A fog seal shall be applied on pavement of less than 4 years but more than 2 years in service or after placement of the asphalt surfacing and shall be used on roads with traffic index of 6.0 or lower. Chip seal shall be applied on rural roads with low volume traffic or as directed.
- **12.05** Road/Work Acceptance: Where applicable, a fog seal treatment shall be required for all pavement work prior to acceptance and/or issuance of a notice of completion for roads to be accepted into the County maintained road system.

13. SLURRY SEALS

- **13.01 General:** A slurry seal shall conform to Section 37-3 of the Caltrans Standard Specifications.
- **13.02 Description:** A slurry seal shall consist of an application of a mixture of polymer modified asphaltic emulsion, aggregate, water, and additives to an existing asphalt pavement surface. The

slurry seal shall be applied at a rate of 8 to 10 pounds per square yard for Type I and at a rate of 12 to 15 pounds per square yard for Type II. The asphaltic emulsion for Type I shall be within 17 to 20 percent and within 14 to 18 percent for Type II. The exact percentage of the emulsion will be determined at the time of application based on an approved mix design. The polymer content shall be a minimum of 2.5 percent.

- **13.03 Asphaltic Emulsion:** The asphaltic emulsion shall conform to the requirements of Section 94 of the Caltrans Standard Specifications. The polymer shall be either neoprene or butadiene and styrene copolymer.
- **13.04 Application:** A slurry seal shall be applied on pavement of 4 years or more in service or after placement of the asphalt surfacing. A Type I slurry seal shall be used on roads with Traffic Index of 6.0 or lower. A Type II slurry seal shall be used on roads with Traffic Index greater than 6.0. A slurry seal shall be applied when the following conditions exist:
 - A. Use of abrasive grinding on the asphalt pavement as a result of surface profiling.
 - B. Excessive scarring on the asphalt pavement due to the removal of existing or conflicting traffic striping.
 - C. Where multiple trenches or potholing are cut on the asphalt pavement because of a utility replacement project.
 - D. Other conditions that result in significant wear or damage to the pavement surface as determined by the Engineer.
- **13.05** Road/Work Acceptance: Where applicable, a slurry seal treatment shall be required for all pavement work prior to acceptance and/or issuance of a notice of completion for roads to be accepted into the County maintained road system.

14. CONCRETE STRUCTURES

14.01 Description: Bridges, culverts, head walls, catch basins, retaining walls, and all other types of transportation structures shall be constructed to the lines and grades in accordance with the designs shown on the Plans. Each type of structure shall comply with the minimum cementitious material content shown in the table below unless shown on the Plans.

Type of Structure	Cementitious Material Content# (lb/cu yd)	County Road Standard Number
Catch Basin No. 1	590	
Curb Inlet		300
Combination Inlet		301
Catch Basin No. 2	590	302
Combination Inlet		
Flat Outlet Drainage Structure	590	303
Dip Section	590	307
Curb Outlet Drain	590	308
Alley and Alley Apron Sections	590	500
Sewer & Manholes	590	601, 603, 604, 605, 606, 607, 610

Bus Turn Out	590	814
Slab for Backflow Prevention	505	1103
Sewer & Storm Drainage Facilities	590	
Catch Basins, Culverts, Drop		
Inlets, Pipe Collars, Beam		
Supports, Anchors, Thrust		
Block, Encasement		
Reinforced Structures	590	
Retaining walls, footings		
Minor Structures not specified	505	

- **14.02 Concrete Structures:** Except for minor structures, concrete structures shall conform to the provisions in Section 51 of the Caltrans Standard Specifications and these Special Provisions.
- **14.03 Reinforcement:** Bar reinforcing steel and mesh reinforcement used in construction shall conform to the provisions in Section 52 of the Caltrans Standard Specifications.
- **14.04 Air-Blown Mortar:** Air-blown mortar shall conform to the provisions in Section 53 of the Caltrans Standard Specifications.
- **14.05 Precast Concrete Structures:** Precast concrete catch basins and drop inlets shall conform to the provisions in Section 70 of the Caltrans Standard Specifications.

15. CULVERT PIPE

- **15.01 General:** The type, strength, classification, or gauge of drainage pipe to be furnished and installed will be designated on the Plans. Details of the materials and work will conform with Caltrans Standard Specifications and Caltrans Highway Design Manual Guidelines, latest editions.
- 15.02 Design Service Life: All drainage facility material types shall have a minimum design service life of 50 years. All metal pipes shall be subject to the requirements of the Caltrans Chart for 50 years Maintenance Free Service Life as contained in the Caltrans Design Manual. Soil tests using Caltrans Test Method 643 shall be provided to determine the pH and resistivity levels of the native soils and imported backfill materials.
- **15.03 Alternate Materials:** When two or more materials meet the service life, the structural requirements, and the hydraulic requirements; the Plans and Project Specifications may provide for alternative pipe materials for optional selection by the Contractor. Allowable pipe materials are:
 - A. Aluminum Spiral Rib
 - B. Cast-in-Place Concrete
 - C. Corrugated Aluminum
 - D. Corrugated Steel
 - E. Reinforced Concrete
 - F. Structural Aluminum Plate

- G. Structural Steel Plate
- H. Steel Spiral Rib

The use of aluminum pipe shall be limited to the acceptable levels for pH, resistivity, and flow velocities. The pH level of soil, backfill, and effluent shall range within 5.5 and 8.5, inclusive. The minimum resistivity of the soil, backfill, and effluent shall be 1500 ohm-cm. Flow velocities shall not exceed 20 feet per second.

When alterations or extensions of existing systems are required, the pipe material type may be selected to match the type used in the existing system.

Each pipe material type selected as an alternative must have the appropriate protection from deterioration from corrosion, abrasion, or both. Corrosion may result from active elements in the soil, the water, and the atmosphere. Abrasion depends upon the frequency, duration, and the velocity of flow, and the character and amount of bedload.

15.04 Protective Coatings and Linings: Protective coatings for corrugated steel pipe shall conform to Section 66 of the Caltrans Standard Specifications.

Plastic (asphalt mastic or polymeric) coatings are acceptable coatings for non-abrasive flow conditions on the inside of the pipe.

Paved invert lining shall be applied on all steel storm drain facilities. Invert lining may be required for metal pipes subject to excessive wear from abrasive flows. All lining material shall conform to the Caltrans Standard Specifications.

Extra metal thickness for aluminum pipes may be required when flow velocities exceed 5 fps.

- 15.05 Strength Requirements: The strength requirements for metal pipe fabricated under acceptable methods contained in the Caltrans Standard Specifications shall be governed by charts published by Caltrans and contained within their Highway Design Manual, latest edition. The minimum metal thickness for any pipe located within the roadway prism shall be 14 gauge.
- **15.06** Reinforced Concrete Pipe (round or oval): Reinforced Concrete Pipe shall conform to the provisions in Section 65 of the Caltrans Standard Specifications and Caltrans Standard Plans.
- **15.07 Cast In Place Concrete Pipe:** Cast in place concrete pipe shall conform to the County Standard Specifications and specifications published by the Riverside County Flood Control and Water Conservation District.

16. CONCRETE CURB AND GUTTER AND SIDEWALK

16.01 Concrete Curbs and Sidewalks, etc.: Portland Cement Concrete curbs, gutters, sidewalks, curb ramps, cross-gutters, spandrels, driveway approaches and other items listed in the table below shall conform to the provisions in Section 73 of the Caltrans Standard Specifications and County Standard Specifications. Each type of structure shall comply with the minimum cementitious material content shown in the following table.

Type of Structure	Cementitious Material Content* (lb/cu yd)	County Road Standard Number
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Landscaped Median Maintenance Walk	505	113
(and other median concrete paving)		
Crossover Median	590	113A
Curb & Gutter (Type A-6, A-8, C, W)	505	200, 201, 202, 202A
Curb only (Type D-1, D)		203, 204
Curb Transition		211
Residential Drive Approach	505	206, 207, 213
Commercial Drive Approach	590	207A
Cross Gutter, Spandrel	590	209, 210
Flat Outlet Drainage Structure	505	303
PCC Dip Section	590	307
Curb Outlet Drain	505	308
Under Sidewalk Drain (Cast in Place)		309
Private Drain Through Curb		310
Gutter Depression	505	
Curb Opening		311
Grate Opening		312
Sidewalk, Fire Hydrant and Utility Pole	505	400
Sidewalk and Curb	505	401
Curb Ramp	505	403
Meandering Sidewalk	505	404
Alley and Alley Apron	590	500
Multiple Mailbox Installation (sidewalk)	505	812, 813
Bus Turnout	590	814
Minor Concrete not specified	505	

^{*}Higher cement content shown on plans or in these specifications shall govern

- **16.02 Joints:** Expansion joints shall be 1/2" wide and shall use a preformed expansion joint filler material.
- **16.03 Expansive Soil:** Where the soils report indicates the presence of expansive soils, or the soil indicates an R-value less than 10 and a Plasticity Index greater than 10, place a minimum of 6 inches of Class 2 Aggregate Base as directed by the Engineer under all concrete improvements and structures listed in the table in Section 16.01.
- 16.04 High Sulfate Soil: High Sulfate soils are damaging to Portland Cement Concrete improvements and are defined as those soils where the Water-Soluble Sulfate in soil is greater than 0.10 percent. For soils with high sulfate content, use the following table to determine actual cement content and requirements for concrete work. In those areas where the soils report indicates the Water-Soluble Sulfate is greater than 0.20 percent, provide a minimum of 6 inches of Class 2 Aggregate Base material and a layer of 6 mil plastic sheeting under and around all concrete improvements and structures listed in the table in Section 16.01, as well as street light foundations, signal pole foundations, catch basins, riprap energy dissipators, pre-cast concrete manholes, and other precast concrete items. The plastic sheeting shall be placed between the aggregate base and the compacted native soil.

Degree of Sulfate Attack Soil Samples (%		Cement Type	Cement Content Lbs/Cuyd	Aggregate Base Required
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Negligible	0.00 to < 0.10	0 to 150	II	Sec 90	No
Moderate	0.10 to < 0.20	150 to 1000	П	590	No
Considerable	0.20 to 0.50	1000 to 2000	V	675	Yes*d
Severe	Over 0.50	Over 2000	V+SCM	675	Yes*d

^a maximum water to cement ratio of 0.50 with Type II Portland cement.

- 16.05 Compaction: Relative compaction of Subgrade shall be 95% minimum for concrete improvements subject to vehicle loading, including curbs, curb and gutter, driveway approaches, cross-gutters, spandrels, local depressions, median crossovers, low water crossing dip sections, alley aprons and bus turnouts. Relative compaction of Subgrade shall be 90% minimum for those concrete improvements not subject to vehicle loading, including sidewalks, curb ramps, landscaped median maintenance walks (and other median concrete paving), and undersidewalk drains.
- **16.06 Multiple Mailbox Installation for New or Existing Sidewalk:** Sidewalk and mailbox foundation shall conform to County Road Standard No. 812 or No. 813, whichever applies. Specifications for mailboxes to be furnished by the Postmaster.
- **16.07 Returned Plastic Concrete:** The use of Returned Plastic Concrete (RPC) may be allowed for minor concrete application and in conformance to Section 90-9 of the Caltrans Standard Specifications. If used, the quantity of RPC added to the concrete shall not exceed 15 percent.

17. SEWERS

17.01 Description: The sanitary sewers for the subdivision shall be constructed in accordance with the Plans as approved by the Director of Transportation and the Health Department. All plans shall be signed by a registered civil engineer under whose direction the Plans and Project Specifications were prepared. Approval of the operating agency or District shall also be provided.

This section is for the purpose of defining the minimum requirements for the construction of sanitary sewers and is not intended to prohibit the use of any material and methods of construction not specified herein, provided such alternate is approved by the Health Department. In those cases in which utility companies have specified construction standards pertaining to their utility, standards of the utility company shall be accepted in lieu of the County standards specified herein, excepting trench compaction and pavement restoration in County roads.

- **17.02 Scope of Work:** The work under this section shall include all work required to complete the construction and testing of all facilities necessary for the satisfactory operation and protection of the system as shown on the Plans.
- **17.03 Sewer Pipe:** All sizes of sewer pipe shall conform to the applicable requirements of Section 207 of the "Greenbook", Standard Specifications for Public Works Construction, latest revision. All

b maximum water to cement ratio of 0.45 with Type V Portland cement.

^c maximum water to cement ratio of 0.40 with Type V Portland cement and Supplementary Cementitious Materials (SCM) per Caltrans Standard Specification 90-1.02H.

^d 6 mil plastic sheeting and Class 2 Aggregate Base to be placed under and around all concrete improvements and structures identified in this Section 16.04.

- lining of pipe shall be in accordance with the requirements of the supervising agency and shall be approved by the Director of Transportation and the Riverside County Health Department. Plastic pipe shall conform to ASTM D-3034.
- **17.04 Installation:** The installation of on-site main lines and outfalls shall be within the dedicated road right-of-way except where easements are necessary to provide a gravity flow system and shall be in accordance with requirements and standards of the County of Riverside.
- **17.05 Manholes and Structures:** All manholes and structures, either precast or built up, to be installed within the roadway, shall be designed for a minimum AASHTO H-20 highway loading and shall conform to the requirements of Section 70-4 of the Caltrans Standard Specifications and Section 403-3 of the "Greenbook", Standard Specifications for Public Works Construction.
- **17.06 Sewer Connections:** Unless otherwise permitted by the Director of Transportation and Health Department, sewer connections shall be laid in straight lines from the main sewers to a point beyond the curb or to the property line at the time of the laying of the mains in accordance with the approved sewer plans or Improvement Standards.
 - The Contractor shall place "Y" branches of the size and in the positions shown on the approved Plans, and the house connection lines shall be placed to the lines and grades shown thereon. Connections to be stubbed off shall be closed at their outer end with an approved stopper and cement grout.
- **17.07 Testing of Sewers:** After completion of construction of sewers and manholes, the system shall be tested in accordance with the requirements of the sewer purveyor.
- 17.08 Separation of Water Mains and Sanitary Sewers: Water mains and sanitary sewers shall conform to the criteria as outlined and illustrated in the State of California, Department of Health Services' publication "Criteria for the Separation of Water Mains and Sanitary Sewers", latest edition; and the "California Waterworks Standards", Section 64630, Title 22, California Administrative Code.

The "California Waterworks Standards" sets forth the minimum separation requirements for water mains and sewer lines. These Standards, contained in Section 64630, Title 22, California Administrative Code, specify:

- A. Parallel Construction: The horizontal distances between pressure water mains and sewer lines shall be at least 10 feet.
- B. Perpendicular Construction (Crossing): Pressure water mains shall be at least one foot above sanitary sewer lines where these lines must cross.
- C. Separation distances specified in A and B shall be measured from the nearest edges of the facilities (i.e., dimensions are from outside of water main to outside of sewer line or manhole).
- D. Common trench: Water mains and sewer lines must not be installed in the same trench. The lack of separation between water mains and sanitary sewers results in an increased potential for contamination of the water supply. Therefore, when adequate physical separation cannot be attained, an increase in the factor of safety should be provided by increasing the structural integrity of both the pipe materials and joints required herein.

17.09 Backfill Requirements: Pipe backfill shall be placed in accordance with the "Greenbook", Standard Specifications for Public Works Construction Section 306-12, Backfill. The Contractor/Utility Owner shall provide a written report of trench compaction results signed by an Engineer registered in the State of California and competent in the Geotechnical Engineering field along with copies of the daily testing reports prior to paving operations taking place. Testing frequency shall be a minimum of one relative compaction test for every two feet of depth of trench per 200 lineal feet of trench. For example: 1,600 foot trench by 6 foot deep will have a minimum of 24 relative compaction tests. The testing frequency of laterals shall be one out of every two alternating between long and short.

18. WATER PIPELINES

18.01 Description: The water supply system for the subdivision shall be constructed in accordance with the Plans as approved by the Director of Transportation and Health Department. All plans shall be signed by a registered civil engineer under whose direction the Plans and Project Specifications were prepared and shall bear evidence of approval of the operating agency or District.

This section is for the purpose of defining the minimum requirements for the construction of water supply and distribution systems and is not intended to prevent the use of any material or method of construction not specified herein, provided such alternate is approved by the Director of Transportation and Health Department. Water facilities shall be designed and constructed in accordance with applicable requirements of either the California Section of AWWA or the Public Utilities Commission. In those in which utility companies have specific construction standards pertaining to their utility, standards of the utility companies shall be accepted in lieu of the County Standards specified herein, excepting trench compaction and pavement restoration in County roads.

- **18.02 Scope of Work:** The work under this section shall include all work required to complete the construction and testing of all facilities necessary for the satisfactory operation and protection of the system as shown on the Plans.
- **18.03 Materials:** All materials shall be of the sizes and classes as shown on the approved Plans and shall conform to the latest revision of the following Specifications and Standards. All materials shall be new, unless specifically approved by both County agencies involved.
 - A. CAST IRON PIPE. Shall conform to AWWA C102, AWWA C106, AWWA C108.
 - B. CEMENT-ASBESTOS PIPE. Shall conform to AWWA C400, with the selection of Class of pipe based on AWWA Manual H2.
 - C. STEEL PIPE. Shall conform to AWWA C201, AWWA C202, or Federal Specification SS-P-385.
 - D. CONCRETE PIPE. Shall conform to AWWA C300, AWWA C301, or Federal Specifications SS-P-381.
 - E. PLASTIC PIPE. Shall conform to AWWA C900.

- F. LININGS AND COATING. Minimum protective coating shall be asphalt dipped and asphalt felt wrapped. All coal-tar and cement mortar linings and coatings so designated on the Plans or stated in the Project Specifications shall conform to AWWA C104, AWWA C203, or AWWA C205, whichever is applicable. Asphalt mastic coatings shall conform to Specifications M-2 (CS-96) of the Asphalt Institute.
- G. FITTINGS AND SPECIALS. Shall conform to the applicable sections of AWWA C100, AWWA C110, AWWA C207, AWWA C208, or other approved standard or specification under which the fitting or special is made.
- **18.04 Installation:** The installation of on-site pipelines shall be within the road right-of-way of County roads except where easements are necessary to provide a circulating system and shall be in accordance with the requirements and standards of the County of Riverside.
 - Trenching, installation, and backfilling shall be in accordance with the applicable requirements of County Standard Specifications, County Road Standards, and the recommendations of the pipe manufacturer.
- 18.05 Backfill Requirements: Pipe backfill shall be placed in accordance with the "Greenbook", Standard Specifications for Public Works Construction Section 306-12, Backfill. The Contractor/Utility Owner shall provide a written report of trench compaction results signed by an Engineer registered in the State of California and competent in the Geotechnical Engineering field along with copies of the daily testing reports prior to paving operations taking place. Testing frequency shall be a minimum of one relative compaction test for every two feet of depth of trench per 200 lineal feet of trench. For example: 1,600 foot trench by 6 foot deep will have a minimum of 24 relative compaction tests. The testing frequency of laterals shall be one out of every two alternating between long and short.
- **18.06 Structures:** Any structures necessary for the completion of the water supply system shall be constructed in conformity with the Plans and in accordance with applicable provisions of these standards. Concrete structures shall be constructed of minor concrete conforming to provisions in Section 90-2 of the Caltrans Standard Specifications.
- **18.07 Fire Hydrants:** Unless specifically excluded from the Agreement, all water systems shall include fire hydrants installed in conformance with the subdivision Improvement Standards and at locations shown on the Plans.
- **18.08 Valve Casings:** All valve stems shall be cased and provided with removable covers in accordance with the subdivision improvements standards. When located in a paved area, cover shall be flush with surfacing. Covers are to be set to the finished surface grade at the time asphalt concrete or sealcoat is placed.
- 18.09 Hydrostatic Test and Disinfection of System: After completion of the connections, the system shall be tested by the admission of water under not less than the full working pressure of the lines. All joints, valves, connections, and fittings shall then be visually inspected for leakage, or the pipe lines backfilled and a leakage tests made to determine the rate of leakage. The allowable rate of leakage shall not exceed 25 gallons per 24 hours per inch of diameter per mile of pipe. All leaks shall be repaired to the satisfaction of the Engineer.

Disinfection of the lines may be accomplished at this time by the inclusion of the disinfection solution to the water used for the test. All lines shall be flushed and disinfected in accordance

with AWWA C601 prior to Acceptance of the system. Lines shall be thoroughly flushed after treatment with disinfectant prior to being place in service.

19. UNDERGROUND UTILITY INSTALLATION

19.01 General: All new and existing utility lines, including but not limited to, electrical service, communications and street lights conduits will be placed underground. The Developer shall make the necessary arrangements with the serving utilities for the installation of such facilities. Surface mounted transformers, pedestal mounted terminal boxes and meter cabinets, ducts, street lighting, signal control cabinets, and other associated equipment in an underground utility system may be placed above ground in accordance with the County Road Standards and County Standard Specifications herein and the requirements of a County Encroachment Permit.

All overhead communications conductors, and all overhead electrical distribution conductors, which exist on a road or easement to be improved by any land division and commercial development, which is subject to discretionary approval by the County of Riverside, shall be relocated to an underground location, except for overhead electrical circuits which exceed 34 Kilovolts.

The Director of Transportation may waive any of the above requirements if topographical, soil, economic, or any other conditions make such underground installations unreasonable or impractical.

- 19.02 Underground Installations: All underground facilities, including laterals, shall be in place and tested prior to backfilling and paving the street section, including, but not limited to, the following: sewer, water, electric, gas, drainage, communications, cable TV, and irrigation. The Contractor shall provide written verification from the affected utilities of acceptable test results prior to proceeding with backfilling and paving operation. If more than one cable TV company serves an area, cables for all TV companies shall be installed prior to paving of the street section or underground ducts shall be provided by the developer on all street intersections as such to provide future installation of TV cables in accordance with Standard No. 819 of the County Road Standards.
- 19.03 Surface Installations: All above ground appurtenances shall be placed so that no part of the appurtenance is less than 18 inches from curb face and must maintain a minimum 6 foot of sidewalk width per County Road Standards to meet ADA requirements. Where no curb is present, above ground appurtenances shall be placed so that no part of the appurtenance is less than 8 feet from the edge of traveled way.

20. STREET NAME SIGNS

20.01 General: Street name sign shall conform to the latest edition of State of California Manual on Uniform Traffic Control Devices (CA MUTCD) and these Special Provisions.

The Developer or its Agent shall fund the installation of street name signs in accordance with applicable County Standard No. 1220, 1221, and 1222.

- **20.02 Street Name Sign Plates:** Sign plate size, color, material and finish, and lettering sizes shall be in accordance with applicable County Standard No. 1220 or 1221.
- **20.03 Bracket Assembly:** Sign post cap and center cross saddle's size and material shall be in accordance with applicable County Standard No. 1220 or 1221.
- **20.04 Sign Posts:** Sign post size, material and installation method shall be in accordance with County Standard No. 1222.
- **20.05 Sign Locations:** Number of complete street name sign assembly per intersection shall be in accordance with applicable County Standard No. 1220 or 1221.

21. LAND SURVEY MONUMENTS

21.01 General Requirements: The subdivision boundaries, lot corners, road, street, highway centerline, angle points in all lines, beginning and end of all curved lines, shall be monumented in accordance with the hereinafter described standard monuments and procedures. Any monument having characteristics other than the hereinafter described may be used only upon written approval of the County Surveyor. If an existing record and identified monument is found on the ground at the location of a subdivision corner, this monument may be used in lieu of replacement with a new monument provided the existing monument is a type considered to be durable.

Due to fires, hot dry weather, floods, and other natural factors, the County Surveyor is no longer allowing the use of Plastic Plugs as durable monuments.

- 21.02 Standard "A" Monuments: This monument is to be one inch (inside diameter) iron pipe eighteen inches (18") long. A metal disc bearing the Registered Civil Engineer or Land Surveyor number shall be securely affixed to the top of the pipe. The top surface of the monument shall be flush with natural ground, flush with surface in paved streets and twelve inches (12") down in unpaved streets. See Monument Schedule and County Road Standard Drawing numbers 900, 901, and 903 for further information.
- 21.03 Standard "B" Monuments: This monument is to be an eighteen inch (18") long copper clad steel pin, to which is secured at one end, a one and one-half inch (1-1/2") conical brass cap. The monument may be used as an alternate to the type "A" monument to mark centerline control on streets. The monument is to be driven flush with the street pavement. The Registered Civil Engineer or Land Surveyor number shall be stamped into the surface of the brass cap. Modification of the above standard may be approved by the County Surveyor. See Monument Schedule and County Road Standard drawing numbers 900, 901 and 903 for further information.
- 21.04 Standard "C" Monuments: This monument to be of a 2" x 2" x 18" long redwood stake cut from clear heartwood firmly set in the ground. The exact point of intersection of the lines shall be marked on the top center of the stake by a suitable tack or nail, which in turn shall be used to secure to the stake the metal disk bearing the Registered Civil Engineer or Land Surveyor Number. A #5 (5/8") rebar, 18" long with appropriately stamped metal disk may be used in place of a redwood stake. The exact point of intersection of the lines shall be marked on the top center of the rebar, the Registered Civil Engineer or Land Surveyor number shall be stamped into the surface of the cap. Modification of the above standard may be approved by the County Surveyor.

See Monument Schedule and County Road Standard drawing numbers 900, 901 and 903 for further information.

- 21.05 Standard "D" Monuments: This monument to consist of a 3/4" inside diameter x 18" long galvanized iron pipe, driven to a point not to exceed 1" above the natural ground surface. The exact point of intersection of the lines shall be marked on the top center of the pipe by a suitable tack or nail, which in turn shall be used to secure to the pipe the metal disk bearing the Registered Civil Engineer or Land Surveyor Number with mark for exact point. See Monument Schedule and County Road Standard drawing numbers 900, 901 and 903 for further information.
- 21.06 Standard "E" Monuments: This monument to be of a metal identification disc bearing the Registered Civil Engineer or Land Surveyor Number that is set with a lead plug or steel pin set in concrete curb. See Monument Schedule and County Road Standard drawing numbers 900, 901 and 903 for further information.

21.07 Monument Schedule:

STANDARD "A"	USE OF MONUMENT Tract boundary control, street centerline control- unpaved and paved.	REMARKS As specified by the County Surveyor						
"B"	Street centerline control.	May be used in lieu of Type "A" monument in paved streets.						
"C"	Lot corner, angle point in lot line, E. C. and B. C. lot line, and right-of-way line.							
"D"	Same as "C"							
"E"	Same as "D"	All lot corner monuments except when lot corner is coincident with boundary corner may be set in the top of the curb on the prolongation of the lot line or radial/perpendicular from the centerline at a specified distance as noted on the final map. In the event improvements in a subdivision include a block wall along the rear lot lines, a Standard "E" monument shall be set on both sides of the block wall to indicate direction of the side lot lines Such points shall be noted on the final map as "point on line". Otherwise all rear corners shall be set at the true corner location.						

21.08 Monument Ties: Upon completion of the tract monumentation, the Registered Civil Engineer or Licensed Land Surveyor shall furnish to the County Surveyor ties to all street centerline monuments. Such ties are to be permanent physical objects, there being not less than four ties to each monument. Effort should be made to set ties with strong angular relationship, as close to

90° angles as practical. Additionally, consideration should be given to utilizing lot corner monuments as tie points.

Whenever curb-and-gutter is installed, street centerline monuments are to be tied to permanent points set in the curb, these permanent points to consist of a metal identification disc bearing the Registered Civil Engineer or Land Surveyor Number that is set with either of the following: lead and tack (L&T) or steel pin driven into the concrete. Use of a cross cut in the concrete will not be acceptable. Cross over ties are preferred when made with a total station and tape. The ties furnished to the County Surveyor are to be prepared on 8-1/2" x 11" sheets of paper. Sketch to be clear and legible and spaced to avoid confusion or misinterpretation.

22. STREET LIGHTING

22.01 General: Street light system shall conform to the latest National Electrical Code; the Electrical Safety Orders of the Division of Industrial Safety, Department of Industrial Safety, State of California; and shall conform to approved standards and procedures of the local servicing utility, and requirements of this section.

The Developer or its Agent shall fund the installation of street lightings and service connection when conditioned by the County of Riverside Transportation Department (Engineer).

Service Agreement between the Developer and serving utility shall define the serving utility as the owner of the streets lights who is liable of maintaining the street lights.

22.02 Special Provisions:

All street lighting shall conform to the following:

- A. Street lights shall be installed at intersections near the curb return at a far right approach
- B. Street lights shall be installed at a minimum of one street light for each 200-lineal feet of roadway, plus or minus 20 feet
- C. Street light luminaires shall be full cut off, light emitting diodes (LED) type with color temperature of:
 - 4000K when the project is located outside of the 30-mile radius of Mt. Palomar Observatory
 - 2. 3000K color temperature if the project is located within the 30-mile radius of Mt. Palomar Observatory, or
 - 3. As directed by the Engineer
- D. Private lighting shall conform to County Ordinance No. 655 for private lighting regulation within 45-mile radius of Mt. Palomar Observatory and County Ordinance No. 915 for reducing outdoor light trespass
- E. Selection of street light pole height and luminaire wattage shall be in accordance with applicable County Standard No. 1000 or 1001
- F. Street light pole material shall be in accordance with the following:

- Ornamental concrete type shall be considered as the standard street lighting pole type
- 2. Other street lighting pole types or mast arm lengths may be used if mutually agreed upon by the Director of Transportation and the serving utility
- G. Street lighting shall be required on all County of Riverside expressway classification roadways in accordance with County design criteria and the following:
 - 1. At-grade intersections
 - 2. Grade separations of expressways with other public roadways, railways, pedestrian walkways, and with other public or private facilities
 - 3. Acceleration and deceleration ramps and lanes
 - 4. Auxiliary lanes

The above-described requirements shall apply to County designated expressway classification roadways with access openings at spacing not less than the intersection intervals designated in County Standard No. 114. Said roadway shall be provided with physical controlled access barriers such as fences and block walls. In the absence of such physical access barriers, or if the access intervals are less than that set forth in Standard 114, the roadway shall not be considered as an expressway for purposes of street lighting, and street lighting shall therefore be installed at 200-foot spacing in accordance with the requirements of the County's Transportation Department and this section.

H. Requests for street light layouts shall be submitted to the Transportation Department. Specific procedures and design criteria shall be in accordance with those established by the Transportation Department, the County Administrative Office and the serving utility.

23. TRAFFIC SIGNAL AND HIGHWAY LIGHTING SYSTEM

- **23.01 General:** Traffic signal and highway lighting system shall conform to the following:
 - A. Latest edition of California Manual on Uniform Traffic Control Device (CA MUTCD)
 - B. Latest edition of Caltrans Standard Plans and Caltrans Standard Specifications
 - C. Latest edition of County of Riverside Transportation Department Traffic Signal Construction Specifications (County Standard Specifications)
 - D. Requirements of this section

Traffic signal plan shall identify which edition of the CA MUTCD, Caltrans Standard Plans, Caltrans Standard Specification, and County Standard Specifications that the traffic signal plan conformed to.

Traffic signal plan shall be amended to conform to the latest standards/specifications when Developer or its Agent did not secure encroachment permit for the project within 18 months of County of Riverside Transportation Department (Engineer) approving the plan.

Engineer shall review and approve project specific Special Provisions, including requirements of other public agencies that have an owning interest in the planned improvements that were not covered under this section.

The Developer or its Agent shall arrange and fund the following:

- A. Relocation of all conflicting utilities
- E. Electrical service connection
- F. Furnish and install the traffic signal and highway lighting system
- **23.02 Quality Assurance**: Electrical equipment shall conform to the provisions in Section 86-1.01D, "Quality Assurance", of the Caltrans Standard Specifications and conform to the County Standard Specifications.

All furnished equipment shall be new

23.03 Warranties, Guaranties, Instruction Sheets, and Manuals: Warranties, guaranties and instruction sheets shall conform to these Special Provisions.

Minimum manufacturer warranty period:

- A. Light Emitting Diodes (LED) modules shall have five (5) years of manufacturer warranty
- B. <u>Battery Backup System (BBS)</u> shall have five (5) years of manufacturer warranty. The first three (3) years shall be termed the "Advanced Replacement Program". Under this program, the manufacturer will send out a replacement within two business days of the call notifying them of an issue. The replacement unit may be either a new unit or a remanufactured unit that is up to the latest revision. The last two years of the warranty will be factory-repair warranty for parts and labor on the BBS.
- C. <u>Video Detection System</u> shall have three (3) years of manufacturer warranty. During the warranty period, technical support from factory-certified personnel or factory-certified installers shall be available via telephone within four (4) hours of the time when a service call is made.
- D. <u>Internally illuminated LED street name sign</u> shall have two (2) year of manufacturer warranty
- E. <u>All other equipment</u> and systems shall have at least one (1) year of manufacturer warranty

Furnished the following documents to Engineer:

- A. Manufacturer warranty
- F. Manufacturer standard written warranty pertaining to defects in materials and workmanship for all equipment
- G. Two (2) sets of user, operation, and maintenance manuals, written in English, on all equipment and components for the traffic signal and highway lighting system shall be furnished to the Engineer
- **23.04 Equipment Wiring Diagrams:** Controller cabinet assembly diagrams shall conform to these Special Provisions.

The equipment wiring diagrams shall include the wiring diagrams of the following applicable equipment/systems:

- A. Controller cabinet assembly
- B. Traffic signal controller(s)
- C. Battery backup system
- D. Video detection system
- E. Emergency vehicle preemption system
- F. Railroad preemption system
- G. Signal Interconnect
- H. Radio and Ethernet network communication system

Contractor shall furnish four (4) complete sets of equipment wiring diagrams to the Engineer. The controller cabinet assembly wiring diagram shall include an approximately 6" x 8" drawing of the project intersection with the following information, at a minimum:

- A. North arrow
- Street names
- J. Pavement delineation and markings
- K. Signal poles
- L. Traffic signal heads with phase designations
- M. Pedestrian signal heads with phase designations
- N. Video detection zones/loop detectors with input file designations

Contractor shall submit manufacturers' maintenance manual or combined maintenance and operation manual as an informational submittal. The manual must have a master item index that includes:

- A. Specifications
- O. Design Characteristics
- P. General Operation Theory
- Q. Function of all controls
- R. Troubleshooting Procedure
- S. Parts List, Descriptions, Stock Numbers, and Settings
- T. Block Circuit Diagram
- U. Layout of Components
- V. Schematic Diagrams
- **23.05 Temporary Electrical Systems:** Temporary Electrical Systems shall conform to the provisions in Section 87-20, "Temporary Electrical Systems", of the Caltrans Standard Specifications and

these Special Provisions. Temporary wood poles shall conform to the provisions in Section 48-6, "Temporary Wood Poles" and County Standard Specifications.

A temporary electrical system consisting of the traffic signal and safety lighting system shall operate on a continuous basis using either new or used equipment that meets the latest standards /specifications.

Contractor shall obtain Engineer's authorization for the following temporary electrical systems and its installation method:

- B. Temporary signal with steel base plate and weights per City of Los Angeles Standard S-57.2C:
- A. Temporary wood poles, guyed with no signals on span cables, per Caltrans Standard Plan ES-18C, and/or guyed with signal faces on span cables, per Caltrans Standard Plan ES-18D, and
- B. Temporary overhead conductors for temporary signal operation.
- **23.06 Maintaining Existing Electrical System:** Maintaining Existing Electrical System: Maintaining existing electrical systems shall conform to the provisions in Section 87-21.03B, "Maintaining Existing Electrical Systems", of the Caltrans Standard Specifications and County Standard Specifications.

Authorization and coordination from the Engineer is required for each traffic signal system shutdown. Traffic signal system shutdown shall be limited to hours between <u>9:00</u> A.M. and <u>3:00</u> P.M.

Equip existing flashing beacons with portable flashing beacons during flashing beacon shutdown. Portable flashing beacons shall conform to the provisions in Section 12-3.05, "Portable Flashing Beacons" of the Caltrans Standard Specifications or as directed by the Engineer.

If directed by the Engineer, a generator shall be furnished, connected, and maintained to keep traffic signal or flashing beacon system running in normal operation. All matters pertaining to the operation of existing traffic signal equipment shall be coordinated and cooperated with the County of Riverside traffic signal operation division.

Temporary "Stop" signs furnished and installed when traffic signal system is shutdown shall be 36 inches in size.

Temporary "Stop Ahead" signs furnished and installed when traffic signal system is shutdown shall be equipped with portable flashing beacons.

- **23.07 Removing Existing Electrical Equipment:** The Contractor shall remove existing electrical systems as shown on plan(s). For any pole or cabinet that is removed, the unused foundation must also be removed.
- **23.08 Foundations:** Foundations shall conform to the provisions in Section 51, "Concrete Structures", Section 56-3.01C(2), "Foundations", and Section 87-1.03E(3), "Concrete Pads, Foundations, and Pedestals", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.09** Standards, Poles, Steel Pedestals and Posts: Standards, poles, steel pedestals, and posts shall conform to the provisions in Section 56-3, "Standards, Poles, Pedestals, and Posts", and

- Section 87-1.03J, "Standards, Poles, Steel Pedestals and Posts", of the Standard Specifications and County Standard Specifications.
- **23.10 Conduit:** Conduit shall conform to the provisions in Section 86-1.02B, "Conduit and Accessories", and 87-1.03B, "Conduit Installation", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.11 Pull Boxes:** Pull boxes shall conform to the provisions in Section 86-1.02C, "Pull Boxes", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.12 Conductors and Cables:** Conductors and Cables shall conform to the provisions in Section 86-1.02F, "Conductors and Cables", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.13 Signal Interconnect Cable:** Signal Interconnect Cable shall conform to the provisions in Section 86-1.02F(3)(d)(v), "Signal Interconnect Cable" of the Caltrans Standard Specifications and County Standard Specifications.
- **23.14 Fiber Optic Cable:** Fiber Optic cable shall conform to the provisions in Section 87-19.02C "Fiber Optic Cable", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.15 Bonding and Grounding:** Bonding and grounding shall conform to the provisions in Section 86-1.02F(1)(c)(ii), "Bonding Jumpers and Equipment Grounding Conductors", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.16 Service:** Service shall conform to the provisions in Section 86-1.02P(2), "Service Equipment Enclosures", Section 87-1.03L, "Utility Service", Section 87-1.03P, "Service Equipment Enclosures", Section 86-2.11, "Service", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.17 Testing:** Testing and Field Testing shall conform to the provisions in Section 87-1.02D(2), "Quality Control", of the Caltrans Standard Specifications and County Standard Specifications.

Specific testing requirements for various systems and components shall be in accordance with the County Standard Specifications entitled to each herein.

The complete controller assembly and Battery Backup System shall be delivered to the following location or location as directed by the Engineer for testing:

Traffic Signal Shop

Riverside County Transportation Department

McKenzie Highway Operations Center

2950 Washington Street

Riverside, California 92504

Telephone (951) 955-6894

A minimum of <u>15 working days</u> for operational testing and adjustment is required. An <u>additional</u> <u>15 working days</u> period shall be allowed for retesting should the equipment fail.

The conflict monitor unit shall be tested in the field before signal turn on.

- **23.18 Controller Assembly:** Controller assembly shall conform to the provisions in Section 86-3, "Controller Assemblies", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.19 Wireless Radio System:** Wireless radio system shall conform to County Standard Specifications.
- **23.20 Vehicle Signal Assemblies:** Vehicle signal assemblies and auxiliary equipment shall conform to the provisions in Section 86-1.02R(4), "Signal Faces", of the Caltrans Standard Specifications and County Standard Specifications.
- 23.21 Pedestrian Signal Assemblies: Pedestrian signal assemblies shall conform to the provisions in Section 86-1.02S, "Pedestrian Signal Heads", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.22 Pedestrian, Bicycle and Equestrian Push Buttons:** Pedestrian, bicycle, and equestrian push buttons shall conform to the provisions in Section 86-1.02U, "Push Button Assemblies", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.23 Accessible Pedestrian Signals:** Accessible Pedestrian Signals shall conform to the provisions in Section 86-1.02T, "Accessible Pedestrian Signals", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.24 Detectors:** Detectors shall conform to the provisions in Section 87.103V, "Detectors", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.25 LED Luminaires:** Luminaires shall conform to the provisions in Section 86-1.02K (2), "LED Luminaires", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.26 Sign Illumination Systems:** Sign lighting fixtures shall conform to the provisions in Sections 87-3, "Sign Illumination Systems", of the Caltrans Standard Specifications and County Standard Specifications.
- 23.27 Internally Illuminated Street Name Sign: Internally illuminated street name signs (IISNS) shall conform to the provisions in Section 87-4.02C, "Internally Illuminated Street Name Signs", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.28 Photoelectric Controls:** Photoelectric controls shall conform to the provisions in Section 86-1.02M, "Photoelectric Controls", of the Caltrans Standard Specifications and County Standard Specifications.
- **23.29 Emergency Vehicle Preemption System:** Furnish and install complete and functioning emergency vehicle preemption (EVP) system as intended per Plans, the manufacturer, and County Standard Specifications.
- **23.30 GPS Universal Time Source:** The GPS Universal Time Source shall conform to County Standard Specifications.
- **23.31 Battery Backup System:** The battery backup system (BBS) shall conform to County Standard Specifications.
- **23.32 Solar Powered Flashing Beacon System:** Solar powered flashing beacon system shall conform to the provisions in Section 87, "Electrical Systems" of the Caltrans Standard Specifications, Chapter 4K, Flashing Beacons, of the CA MUTCD and County Standard Specifications.

23.33 Permits and Fees: The Developer or its agent shall obtain and pay all necessary encroachment permits, utility services and fees prior to the start of work.

24. ROADWAY LANDSCAPING

24.1 GENERAL

- **24.1.1 Authority:** The following standards and guidelines have been developed and approved for the administration of landscape encroachments as such encroachments relate to roadway landscaping (County Ordinance No. 499 and Resolution No. 89-44).
- 24.1.2 Goals and Objectives: The standards and guidelines contained in this section have been developed to establish a minimum standard of quality associated with landscaping within the County Maintained Road rights-of-way, public rights-of-way, retained lots, and common open space areas. It is the goal of the County to facilitate the implementation of landscape improvements that are adequately designed, properly installed, and can be efficiently maintained. The following objectives should be incorporated into proposed landscapes in County rights-of-way:
 - A. Landscaped improvements shall not jeopardize the public health, safety, and welfare, or interfere with the dedicated uses within the public rights-of-way.
 - B. Landscaping shall be the product of functional design, aesthetic and public safety enhancements with a strong regard for maintenance and maintenance costs in perpetuity.
 - C. Landscaping shall utilize water conservation practices, technology, and techniques. County Ordinance 859.X (X being latest County approved revision) shall be followed. Hardscape treatments shall be considered in combination with planting. Plants shall have low water requirements. Irrigation systems shall be designed for the efficient application of water to the plants.
 - D. The facilitation of plant establishment, continued plant growth, vigor, health, and maintenance shall be part of the design process.
 - E. The standardization of landscape construction and installation through the extended use of the "County of Riverside Comprehensive Landscape Guidelines and Standards" and to reduce plan check and inspection costs.
 - F. Preservation of natural landscape resources, such as specimen or endangered plants, water features, land forms, etc., shall be encouraged.

24.1.3 Landscape Improvement Requirements

A. Any landscape improvements, in conjunction with street improvements for industrial, commercial, or residential developments, involving grading, Hard scape construction (concrete walks, etc.), installation of walls, fences, lighting, planting, or irrigation systems, within the County of Riverside road rights-of-way, must be shown on plans and submitted for review by the Transportation Department.

- B. Plan submittal is not required for individual single-family residential landscaping, unless the proposed landscape work includes berm construction, excavations (other than for sprinkler lines or planting), hardscapes, walls fences, lighting, rockeries, signage, or other obstructions within the right-of-way.
- C. Encroachment permits are required for any work within the rights-of-way that requires a plan submittal.
- D. All landscape work is required to meet the standards set forth in this document.
- E. Landscape plans shall be prepared by a landscape architect registered/licensed in California.

24.1.4 Landscape Maintenance in Perpetuity

A. Prior to the Transportation Department approval of any landscape plans, responsibility for the continued landscape maintenance (in perpetuity) must be established. There are two (2) forms of maintenance responsibilities, public or private.

Private landscape maintenance is typically done by the owner of a single parcel and/or their appointed representative or HOA. Public landscape maintenance involves a landscape maintenance district (such as Lighting Maintenance District 89-1-Consolidated [L&LMD 89-14-C]) typically overseen by a municipality or Special District. L&LMD 89-1-C is administered by the County of Riverside Transportation Department.

For Residential (tract) developments, ongoing landscape maintenance shall be the responsibility of a County approved (public) landscape maintenance district for all reverse frontage areas, medians, and ingress/egress parkways adjacent to fence lines (side lots). Maintenance shall pertain to all areas within a development as approved on the landscaping plan and, with the exception of walls and monuments, shall include all landscape elements in the rights-of-way, not just planting and irrigation. HOAs are not permitted to maintain reverse frontage landscapes or medians within the County Maintained Road right-of-way. Monuments shall be placed in an easement solely for the purpose of the monument and maintenance of said monument. Lighting for monuments will only be covered by the L&LMD if the lighting is on approved L&LMD plans and noted in the budget. Repeated acts of vandalism will not be covered by the L&LMD once budgeted monies are exhausted.

For commercial and industrial projects, ongoing landscape maintenance shall be the responsibility of a private entity if approved by the County of Riverside Transportation Department by an executed Landscaping Maintenance Agreement. Otherwise, ongoing landscape maintenance shall be done by a County approved landscape maintenance district. Maintenance responsibilities shall pertain to all areas within a development as approved on the landscaping plans, and shall include all landscape elements in the rights-of-way, not just planting and irrigation.

B. Individual maintenance districts such as L&LMD 89-1-C, CSA, CFD, and Valley-Wide Recreation and Park District may have different requirements and standards in addition to those listed herein. Plans shall comply with pertinent standards and may need to be approved in conjunction with the associated maintenance district. In cases of discrepancy, the stricter requirements shall apply.

- C. Landscape areas shall be designed with respect to the maintenance mechanism utilized. Areas maintained by separate entities shall be designed so maintenance responsibilities do not overlap. Installation of a 6-inch-wide concrete header shall be required to clearly delineate maintenance boundaries.
- D. Areas maintained by separate entities shall have separate electrical and water meters, in separate enclosures/boxes. Special District Utilities shall be standalone.
- E. Parkways that have sidewalks that meander through the right-of-way area, dedicated landscape parkway easements or common areas contiguous to public rights-of-way shall be maintained by one maintenance entity for the entire area.
- 24.1.5 Utility Location and Obstructions Below Ground: Landscape designs shall consider all existing or proposed utilities, including but not limited to gas, sewer, water, storm drains, streetlights, and electrical. The locations of all known utilities shall be shown on the landscape plans. Contractor shall be responsible for having the location of all utility lines and structures verified by Underground Services Alert, or other utility locating service, so that proper precautions may be taken to avoid disruption of or damage to such improvements.
- **24.1.6 Sight Distance:** The sight distance is the distance a driver approaching an intersection, whether signalized or not, or leaving a driveway should be able to see down the street for oncoming traffic. The area between the sight line and the curb is a restricted use area. No trees, plants, walls, or other obstructions higher than 18 inches from top of pavement (12" from top of curb) where ground is flat shall be placed in these restricted use areas (see County Road Standard 1101).

24.1.7 Quality and Standards of Materials, Installation, and Guarantees

- A. All landscape materials and installation procedures shall meet the minimum requirements as set forth in the "Greenbook", Standard Specifications for Public Works Construction, latest edition, and the County Standard Specifications contained in this document. Unacceptable materials or improper installation procedures shall be cause for rejection/removal of work.
- B. The County of Riverside Comprehensive Landscape Guidelines and Standards (referred to herein as "Guidelines") shall be used as a reference for current landscape construction within the rights of ways and adjacent landscape easements. The Guidelines are a dynamic document which is updated from time to time to reflect ever evolving Landscape Industry and Water District Regulations. When a conflict occurs between iterations of the Guidelines the stricter detail/standard/specification shall prevail. A current copy of The County of Riverside Comprehensive Landscape Guidelines and Standards may be found at: https://rctlma.org/trans/Land-Development/Landscape-Development
- C. All tree, shrub, and other woody plant work shall be completed in accordance with Approved American National Standard (ANSI) A300 and Z133 Standards, latest edition.
- D. Landscape maintenance districts may require additional plan check and inspection time and fees. The County may relinquish final inspection of the project to the County approved landscape maintenance district through written notification. The County will also seek written notice from the maintaining entity for their final Acceptance of the landscape improvements.

- E. Plant material shall be guaranteed for 90 days from time of landscape Acceptance by the County. Trees shall be guaranteed for one year from Acceptance date. Guarantees shall be in the form of bonds or cash deposits combined with written Agreements.
- F. Irrigation systems shall be guaranteed against material defects or improper installation methods for one year from acceptance date. Guarantees shall be in the form of bonds or cash deposits combined with written Agreements.
- **24.1.8 Plant Material:** Plants shall be typical of their species or variety, have normal habits of growth, be healthy, vigorous, well rooted, but not rootbound or have girdling roots.
 - A. Plants shall be free of disease, insects or pests, including their eggs or larvae.
 - B. Plants with spines, thorns, or poisonous leaves, seeds, or berries, etc., are prohibited in areas adjacent to high pedestrian traffic. Plant selection shall be appropriate for the specific geographic location and climate zone in which they will be planted. Plants with thorns may be planted in areas where access is not warranted. Plant materials shall be selected from the "County of Riverside California Friendly Plant List" within The County of Riverside Comprehensive Landscape Guidelines and Standards.
 - C. In order to comply with the County of Riverside objectives for attractive, low maintenance landscapes, the following characteristics shall be considered in plant selection:
 - Appropriate growth habit and mature size for the intended planting area to avoid excess maintenance, such as frequent pruning or shearing to control growth. Minimal pruning and/or shearing for natural appearance is preferred.
 - 2. Drought tolerance, to minimize water usage.
 - 3. Fire resistance in natural fire hazard areas and fuel modification zones.
 - 4. Deep rooting properties.
 - 5. Hydrozone based design, grouping plants with similar water needs and other horticultural requirements.
 - D. Trees shall be selected per the "County of Riverside California Friendly Plant List" within the County of Riverside Comprehensive Landscape Guidelines and Standards. Trees shall have straight, undamaged trunks, be well branched, well rooted without being rootbound, and have no girdling roots. Any old tree wounds shall be well healed or callused over. Minimum tree size shall be 15 gallons.
 - E. Trees with aggressive roots shall be avoided. Approved root barriers (minimum 24" in depth) are required when trees are planted within certain distances from County maintained curbs, gutters, and/or sidewalks. See guidelines for specific requirements.
 - F. Plants shall be non-invasive Refer to "County of Riverside California Friendly Plant List" within The County of Riverside Comprehensive Landscape Guidelines and Standards for a general listing of plants not allowed within various areas of the County.
 - G. Trees shall not be topped (unless by governing utility as allowed by the PUC).

24.2 EROSION CONTROL AND LANDSCAPE GRADING PLANS

24.2.1 Erosion and Sediment Control: Landscape designs shall comply with the County of Riverside Building and Safety Department's Grading Policy for Erosion Control Landscape Plans, Ordinance No. 457.

24.2.2 Landscape Grading

- A. Any grading in landscape areas shall be as shown on the grading plan.
- B. Parkway and common areas shall not drain onto private property.
- C. Medians shall be graded per County of Riverside Ordinance No. 461.
- D. Toe of slope shall not extend into any line of sight restricted use area (see County Road Standard 821).
- E. Hardscape grades shall be per County of Riverside codes and requirements. Desirable grades for landscape planting areas are indicated below.

Landscape	Minimum Slope	Maximum Slope	Comments
Shrub and Groundcover	2% (50H:1V)	50% (2H:1V)	If slope is 5:1 or steeper, the toe of slope shall be 1 foot away from any hardscape or wall.

F. No grading shall be permitted within the drip line of existing trees indicated to remain and work shall be completed in compliance with Section 24.83.

24.3 PARKWAY LANDSCAPING

24.3.1 Trees

- A. Trees shall be selected "County of Riverside California Friendly Plant List" within County of Riverside Comprehensive Landscape Guidelines and Standards.
- B. Tree selection and design may be reviewed in relation to the species selected and the space in which it is to be planted. Factors to be considered are planting area size, proximity to utilities (above or below ground), growth rate and mature tree size, tree spacing, rooting characteristics, horticultural requirements, and maintenance needs.
- C. Trees located within the parkway shall be a minimum of 6 feet from the sidewalk edge, 6 feet or less from the sidewalk edge with a root barrier or as indicated within the County of Riverside Comprehensive Landscape Guidelines and Standards. In parkways without sidewalks, trees shall be planted a minimum of 7.5 feet from the face of curb. These conditions may vary for specific plans or special conditions approved by the Director of Transportation.
- D. The following standards shall apply in tree selection and location. Trees shall be:
 - 1. Planted on private property where feasible and street tree requirements are not required, a minimum of 2 feet from the right-of-way line on local and collector

- streets. The exception shall be along the side yards (ingress/egress conditions) and backs of residential properties (reverse frontage) where a wall exists or is proposed. For all other street sections, trees shall be planted outside the rights-of-way if setback requirements can be met.
- 2. A minimum of 10 feet from residential driveways and 15 feet from commercial driveways (see County Road Standard 1101).
- 3. A minimum of 10 feet from corner cutbacks for local and collector streets, and 20 feet from corner cutbacks for secondary, major and arterial streets (see County Road Standard 1101).
- 4. A minimum of 3 feet from fences or the face of walls, either existing or proposed, and a minimum of 2 feet away from any wall footings.
- 5. A minimum of 6 feet from any underground utility line or vault, or per the particular utility, which may have further restrictions.
- 6. A minimum of 20 feet from street lights and 12 feet from traffic or street signs.

24.3.2 Shrubs, Ground Covers, and Cactus

- A. Shrubs, Ground Covers and Cactus shall be per "County of Riverside California Friendly Plant List" within The County of Riverside Comprehensive Landscape Guidelines and Standards.
- B. The minimum distance shrubs shall be planted from hardscape/sidewalk shall be equal to half the mature shrub's diameter. The minimum distance shrubs shall be planted from curbs shall be equal to the mature shrubs diameter. Ground cover may be planted up to the sidewalk or curb, depending on Ground cover trimming needs and suitability.
- C. Within the road right-of-way, no shrubs, ground covers, and cactus with a normal growth habit over 18 inches in height from top of pavement (12" from top of curb) may be planted within or encroach into any sight distance restricted use areas (see Standard 821).
- D. Where cactus are allowed in desert landscaping, cactus shall be placed so as not to encroach within 5' of any pedestrian or bike path areas at maturity.

24.3.3 Vines

- A. Vines shall be per "County of Riverside California Friendly Plant List" within The County of Riverside Comprehensive Landscape Guidelines and Standards.
- B. Vines shall be self-clinging or have an appropriate support system provided.
- C. A minimum of 18"-24" shall be left between any self-clinging and/or twining vines and shrubs or trees at their maturity.

24.3.4 Lawn/Turf

- A. Turf is only allowed in the right-of-way where it is contiguous with recreational park turf with no barriers present, in high pedestrian use areas such as schools, or as approved by the Transportation Director on a per case basis.
- B. Per Ordinance 859.3, turf is prohibited in the front yards of new residential tract developments prior to building permit final.

24.3.5 Sidewalks

- A. Sidewalks shall be designed per Ordinance 461.
- B. Meandering sidewalks, that do not go to the curb, shall meander no closer than 3 feet to the face of the curb consistent with County Road Standard 404.
- C. Intersections with other walkways shall be designed to be located within one maintenance entity area. At the line where the walkway crosses into another maintenance area, an expansion joint shall be installed in the walkway (see Standard 400).

24.3.6 Mulch

- A. All non-turf planting areas, except as noted herein, shall be mulched to retain moisture, suppress weeds, and moderate soil temperature. A granular pre-emergent shall be applied prior to mulching activities.
- B. Planting areas shall be mulched with a three inch (3") minimum layer of organic mulch. Areas of groundcover planted from flats shall be mulched with a one and one half inch (1-1/2") minimum layer of organic mulch. Organic mulch material shall be 3/8"-1/2" diameter screened fir bark or approved equal.
- C. Where maintenance districts require a different depth of mulch, the more stringent (deeper) requirement shall prevail.
- D. Color enhanced mulches shall not be used.
- E. Mulch may be omitted for native revegetation projects upon the recommendation of the project biologist.
- F. Mulch may be omitted for hydro-seeded areas.
- G. Slopes shall receive stabilizing mulch products per Ordinance 859.X (X being latest revision).
- H. Planting areas in desert regions (Sunset Climate Zones 11 and 13) shall be mulched with a two inch (2") layer of decomposed granite / gravel mulch. 1" minimum (sieve gradation/size) decomposed granite mulch shall be used.
- I. When used in lieu of mulch, cobble areas within the right-of-way shall be grouted in place unless maintained by commercial / industrial private entity.

24.3.7 Walls/Fences/Boulders

- A. Walls or fences to be maintained by a maintenance district shall be designed to be located totally within the maintenance area of the maintenance district that will maintain the wall or fence. No private individual residential walls or fences, nor their footings shall be located within the County right-of-way.
- B. Walls shall be screened with vines to discourage graffiti. Vines shall be self-clinging or secured to a support. Vines should eventually provide a minimum wall screen of 80 percent coverage. Walls shall have a minimum of three (3) applications of anti-graffiti coating applied prior to any planting.

C. Placement of Boulders within the right-of-way shall take into consideration sight distance zones, fall zones for cyclists, pedestrians, etc. A 10' clearance to pedestrian or bike path areas is recommended.

24.3.8 Trail Stabilizer

- A. Stabilizer product shall be appropriate for use by pedestrians, bicyclists and, where used for multi-purpose trails, equestrians.
- B. Subsurface for stabilized decomposed granite shall be prepared per product manufacturer specifications and warranty terms (compacted greater than 90% or Geotechnical Engineer's recommendation).
- C. Depth of stabilized decomposed granite to be a minimum of 50% of the overall trail section. The remaining section may be class 2 aggregate base as approved by the Director of Transportation.

24.4 MEDIAN LANDSCAPING

24.4.1 General: Planting and irrigation is required for medians 5' wide or greater unless sight distance restricts planting. Median noses and transitions from turn lanes less than 24 inches shall be hardscape material. Irrigation shall be point source in nature, with 12" flexible riser with drip emitters or bubblers. Drip irrigation less than ½" pipe diameter and/or rated less than schedule 40/80 pipe is not permitted within medians.

24.4.2 Median Hardscape

- A. To reduce plant maintenance and conserve water, hardscape, rockeries, or other nonplant treatments shall be incorporated into the median design. As a general rule, a minimum of 40 percent of the median's plantable area shall receive hardscape treatment.
- B. Median hardscape shall be cobblestone river rock, 4" 12" dia. and grouted with a min. thickness 4"; or colored concrete (with or without a stamped pattern) with a 4" min. thickness. Color shall be red, brown, sand, or tan. A gray or slate color is not permitted, since this color will not differentiate the median from the roadway.
- C. As a general rule, fixed objects such as boulders shall not be located in medians. In cases where special permission is granted, use shall be limited.
- D. Monument signs in medians may be allowed on a 'per case basis' with Transportation Department approval and will require a maintenance agreement. The Transportation Department will not be responsible for the maintenance and repairs/replacement to Monument signs.

24.4.3 Median Trees

- A. Trees shall be planted a minimum of 6 feet from the face of curb. Median must be a minimum of 12 feet wide for tree planting. Where trees are requested in a median less than 12 feet wide, root barriers are required.
- B. Trees shall be a minimum of 20 feet away from street lights and 10 feet away from traffic or street signs.

- C. Trees shall not be planted in median sight distance restricted use areas (see Standard 821)
- D. Trees planted in the median shall be from the County of Riverside California Friendly Plant List. Trees should be small diameter trunks and high canopies at full maturity.
- E. Tree 'clear trunk height' shall be 5' minimum above finish grade for viewing under foliage canopy of tree. If mature spread diameter of tree extends beyond the curb face, there shall be 14' minimum clearance above the road to the branching/foliage.
- F. Trees planting, location and size shall comply with Caltrans requirements for highways classified per County Standards 91, 92, 93 and Expressway.

24.4.4 Median Shrubs and Ground Covers

- A. Shrubs planted in a median shall be the low growing varieties. The shrubs normal growth habit shall not exceed 4 feet in height. Median shall be A minimum of 5 feet wide for shrub planting.
- B. Shrubs planted in the sight distance restricted use areas shall not have a growth habit exceeding 18 inches in height from top of roadway (12" from top of curb or less depending on vertical curve sight visibility restrictions). See County Road Standard 821.
- C. Shrubs and hedges shall be designed and planted the same as for parkways.
- D. Ground covers shall be designed and planted the same as for parkways.
- E. Lawns shall not be permitted in medians.

24.5 WATER CONSERVATION AND IRRIGATION

24.5.1 Water Conservation

- A. Landscapes installed in County rights-of-way and open space/common areas shall contain water conservation elements in both the planting and irrigation design.
- B. Mulch shall be used in planting areas as required herein.
- C. Plans shall conform to the requirements of the most recent version of Ordinance No. 859. Projected landscape water use shall be calculated using the water budget formula found in Ordinance No.859. Landscaping within the County Maintained Road rights-of-way shall be calculated at an ETo budget of 0.45 (or 45% ETo).
- D. Irrigation plans shall also conform to any requirements established by the local water purveyor servicing the project area.

24.5.2 Irrigation System Design and Equipment

- A. Irrigation design shall conform to the requirements of Ordinance No.859.X (X being latest County approved revision).
- B. Irrigation systems shall be designed according to maintenance areas. All irrigation system equipment (controllers, valves, piping, heads, etc.) shall be installed within the maintenance area. In landscape areas that include the right-of-way and a contiguous dedicated landscape easement, the irrigation system need not be separated if the entire

- landscape area is being maintained by one entity. Areas maintained by different maintenance entities shall also have their own water and electrical points of connections (POC).
- C. Backflow prevention devices shall be covered with a vandal-resistant stainless steel or aluminum enclosure, powder-coated green (or tan in the Desert areas near DG), with locks.
- D. Irrigation systems, other than private individual homeowner areas, installed within road rights-of-way shall include the following:
 - 1. A wye filter or basket strainer shall be installed before backflow prevention devices (verify with local water entity). Backflow shall be painted 'Hunter Green' or Tan to deter theft (protect handles, serial numbers, and ports from paint).
 - 2. A Climate-Based smart controller (IA-SWAT tested) with access to real time EvapoTranspiration (ETo) rates shall have at least as many stations as valves indicated or per the irrigation design. Controller shall be solid state and equipped with multiple programs, water budgeting, and repeat cycles. Controller shall be enclosed in a vandal-resistant steel or aluminum enclosure.
 - 3. Irrigation systems shall be scheduled so the precipitation rate does not exceed the infiltration rate of the soil.
 - 4. Irrigation systems shall be equipped with a normally closed (NC) master valve and a flow sensor.
 - 5. Irrigation systems shall be equipped with a rain sensor which shall be located within an unobstructed natural rainfall area above the irrigation spray pattern.
 - 6. Gate valves shall be installed in pressure main lines at each valve along the system to allow shutting down portions of the system. Gate valves shall also be installed on the supply side of a main line that crosses a street.
 - 7. Remote control valves shall be installed below ground in valve boxes. Control valve wire shall be UGF wire, minimum 14 gauge. Common wire shall be UGF wire, WHITE, minimum of 12 gauge or larger. Wire shall be a continuous run from controller to valve for runs less than 2500 feet. Common wire splice shall occur at valve boxes or splice boxes. Two-wire systems shall be installed in conduit, minimum 1" size for a single two-wire cable. Conduit for wires shall be sleeved across hardscape and roadways for additional protection.
 - 8. Quick coupling valves (QCV) shall be located along pressure main line at maximum intervals of 25 feet. QCV shall be installed in a minimum 10" round valve box.
 - 9. Antidrain devices shall be installed where low head drainage may occur.
- E. High efficiency irrigation methods (for example drip, low volume rotators or rotors, microsprays, etc.) are encouraged.
- F. All spray heads and rotor heads shall be of the "pop-up" type with a minimum 6-inch pop up in turf areas and 12 inches in shrub areas. Medians shall be point source drip only.

- G. Where risers are necessary within the right of way, they shall be of flexible sch. 40 PVC pipe. Fixed/rigid risers are not permissible.
- H. Irrigation systems shall be designed to provide uniform coverage. The design for rotors and sprays shall be head-to-head coverage with a maximum of 60% diameter overlap. Irrigation system shall be designed to minimize and prevent spray on roadways and sidewalks.
- Pressure calculations shall be provided for valve with highest gpm and the farthest valve from point of connection. Slope system will require a pressure calculation for system with the greatest elevation increase.
- J. Pipe shall be sized to reduce pressure loss and as to not allow velocities to exceed 5 feet per second.
- K. If a pump is required, calculations shall be submitted for review.
- L. In areas designated to become part of the Landscaping & Lighting Maintenance District 89-1-Consolidated (L&LMD 89-1-C) or another Special District such as CFD or CSA, the County or District reserves the right to specify additional irrigation equipment that would reduce or minimize annual landscape operation costs Such features would be dependent upon the nature and extent of the proposed landscaping.

24.5.3 Installation

- A. The landscape contractor shall coordinate the irrigation installation work, such as point of connections, sleeving, and utilities, with work of other trades. The irrigation installation shall be done in such a manner to avoid problems with the planting of trees and shrubs or other related work as called for on the Plans.
- B. Irrigation pressure mainlines shall be a minimum of 18 inches below finish grade. Non-pressure lateral lines shall be buried a minimum of 12 inches below finish grade. Where any pipes pass under vehicle access ways, the minimum pipe depth shall be 36 inches below finish surface and shall be installed in PVC sleeving including wire conduits.
- C. Valves and controllers shall be located in an accessible parkway or open space areas locations. Where and when possible, valves should be grouped together, utilizing a common shut-off device. Valves may be installed in medians, if necessary. Controllers shall not be placed in the median.
- D. Wiring for valves shall follow the mainline. Wiring shall be a minimum of 18 inches below finish grade. Where wiring passes under vehicle access ways, or the wiring does not follow the mainline, then the wiring shall be installed in a separate PVC conduit, minimum 1 inch size. A pull box shall be located at each end of the conduit. Two-wire systems shall be install in conduit, minimum 1" size for a single two-wire cable. Conduit for wires shall be sleeved across hardscape and roadways for additional protection.
- E. Provide an 18-inch-long expansion loop in wire run for each change in wiring direction and at valve boxes.
- F. Controller charts and reproducible as-built plans shall be provided to the County for all landscaping with the rights-of-way.

G. Landscape architect of record shall certify that all landscaping and related irrigation was installed per plan and per these standards.

24.6 INSPECTION AND SUBMITTAL

24.6.1 General: All work within the County rights-of-way shall be subject to inspection to verify that work has been done according to approved Plans, County Road Standards, and per County Standard Specifications. The County Transportation Department shall be notified two working days prior to the work requiring inspection.

24.7 CONSTRUCTION CLEAN UP

24.7.1 General: During the course of the work, the sidewalks and street shall be left in an orderly, neat and clean condition. Equipment, supplies and materials shall be stored in a safe way and in a location so as not to interfere with other work or impair site distance. Excess equipment, material, soil, etc., shall be removed from the site.

24.8 STREET TREE MAINTENANCE, REMOVAL, PROTECTION, AND PRESERVATION

24.8.1 Tree Maintenance

A. The Transportation Department provides street tree crews to perform limited tree trimming, when notified, where trees located within County rights-of-way have branches that overhang roadways or walkways and present a hazard to the traveling public, in accordance with County Resolution No. 73-142:

TREES: Trees overhanging County roads, but whose trunks are off the County right-ofway, shall be the responsibility of the owner and made safe for traffic at their expense

Trees upon the County right-of-way shall be maintained by the County as to the safety and convenience of road travel. Their maintenance, or removal desired to benefit adjoining property, shall be at the expense of the adjoining property owner. Any work on trees situated on County right-of-way, performed by the adjoining property owners, shall be done under a permit issued by the Road Department (currently Transportation Department). (Resolution No. 73-142)

Trees shall be pruned to meet the following criteria:

- 1. All branches overhanging roadways beyond curb face shall have 14'-0" minimum vertical clearance.
- 2. All branches overhanging walkway shall be 8'-0" minimum vertical clearance.
- 3. All branches overhanging trails shall be 10'-0" minimum vertical clearance.
- B. Trees covered by a landscape maintenance agreement or district shall be maintained or removed as necessary per the agreement or by the district.
- C. Utility pruning is a dangerous practice. Tree branches entangled in, or interfering with, overhead utility wires will be referred to the appropriate utility for maintenance requests.

- D. Tree Maintenance performed by County Contract, County Contractor, or hired by a private entity or individual shall be overseen by an International Society of Arboriculture (ISA) Certified Arborist. All tree work shall be completed in accordance with Approved American National Standard (ANSI) A300 and Z133 Standards, latest edition.
- E. Tree trimming operations shall be limited to those addressed within ANSI A300 and Z133 Standards, latest edition and line of sight issues. Tree Trimming for recreation purposes and commercial signage is not permitted, unless within a dedicated View Easement

24.8.2 Tree Removal (On or Adjacent to County Road Rights-of-Way)

The purpose of this standard is to establish a procedure to ensure that proper review is provided prior to the determination and ordering of work to remove trees from County maintained rights-of-way or trees located on private property which pose a public safety hazard to public-dedicated activities within County rights-of-way. Formerly Road and Survey Department Policy #26.

- A. Conditions upon which trees may be considered for removal:
 - 1. Dead or diseased.
 - 2. Danger to traffic or private property.
 - 3. Conflict with construction work or major maintenance project
 - 4. Trees creating unsafe conditions such as a sight distance restriction.
 - 5. Tree or trees located near the edge of the traveled way and are regarded as a target location of an errant vehicle.
 - Removal is requested by adjacent property owners and justifiable by above stated conditions.
- B. The recommendation for such removal is to be submitted to the Deputy Director of Transportation for approval prior to commencing any removal activities. This report should provide, but is not limited to, the follow information:
 - 1. Road book map showing locations
 - 2. Accident data (at least three years).
 - 3. Contacts with the property owners.
- C. The Deputy Director of Transportation or Highway Operations Superintendent are authorized to approve such tree removal. However, any location where tree removal may be a sensitive issue in the neighborhood should be brought to the attention of the Director of Transportation who will in turn advise the County Supervisor for that Supervisorial District.
- D. The owner of trees on private property adjacent to County rights-of-way and whose trees have been designated for removal per the above shall be notified by the County to have the trees removed. Trees may be removed by the County, at the property owner's expense, if owner fails to comply with tree removal notice.
- E. Tree removals may require an ISA Certified Arborist Report outlining most of the following: existing tree characteristics, health, site conditions, target, defects, hazard rating, and abatement.

F. Tree removals shall follow the Migratory Bird Treaty Act.

24.8.3 Tree Protection During Construction

Trees that have been targeted for preservation or are within the existing landscape (formal or informal), or adjacent to the County maintained right of way must be protected from any construction damage and/or construction activity around the tree. This should be kept in mind during the planning and/or permitting processes to ensure that the area around the tree in not planned to have utilities that would require trenching or otherwise affect the root zone, and that the area is not intended to be used as a staging area or even as a pass-through area where foot traffic or vehicular traffic will compact the soil.

- A. Each tree likely or near the construction area shall have a designated Tree Protection Zone (TPZ). Within this area is the Critical Root Zone (CRZ).
- B. Typically, a tree's dripline dictates the TPZ. On larger species, an estimated radius of 8-12 inches per every 1 inch of Diameter Breast Height (DBH) should be protected, depending on age and tolerance to construction damage.
- C. The TPZ shall be delineated or fenced prior to, during, and after construction operations.
- D. Construction activities which require access into the TPZ and/or CRZ or include root pruning for roots greater than 1" shall have a Tree Management Report outlining specifications for protecting said trees approved by the County.
- E. Construction activities shall minimize the following: root damage, trunk damage, soil compaction, irrigation interruption, reduction of crown by greater than 25%, exposure to the elements, grade changes.
- **F.** Tree Protection operations shall be limited to those addressed within ANSI A300 and Z133 Standards, latest edition.

24.8.4 Tree Preservation

- A. Rapid population growth and vigorous development have resulted in the loss of a great number of trees throughout Riverside County. While new trees are being planted, the loss of specimen trees is an alarming situation. Therefore, a standard for tree preservation has been established to protect these precious resources as outlined below and also in the County Oak Tree Management Guidelines and Ordinance No. 559 pertaining to native trees above 5,000 feet in elevation.
- B. All tentative subdivision and parcel maps shall identify all trees located within proposed or existing road rights-of-way having a trunk diameter of 8 inches or more for trees 25 feet in height or greater. Trees shall be noted as to location, diameter, drip line extent, species name and common name. Trees of similar species and size which are part of a group or orchard need not be identified individually. Upon review by the Transportation Department staff, all trees identified as "specimen trees" shall be retained.
- C. Specimen trees are identified as being any tree which may possess historical value. Specimen trees shall be healthy and typical of species.

Olea Europaea (Olive), Quercus agrifolia (Coast Live Oak), Populus fremontii (Fremont's Cottonwood), Plantanus racemosa (Western Sycamore), Salix lasiolepis (Arroyo willow), Salix gooddingii (Black willow), Salix laevigata (Red willow), Salix exigua (Sandbar willow), and all Palm

	ained whenever possible	e. When	retention	is	not	feasible,	trees	of	these
species shall be studi	еи то ре гетосатеа.								

APPENDIX B

GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS

PRELIMINARY GEOTECHNICAL INVESTIGATION
AND INFILTRATION FEASIBILITY INVESTIGATION
APN'S 411-150-012, 411-160-006,
AND A PORTION OF 411-160-032
SWC 4TH STREET AND ROBERTSON CIRCLE
CALIMESA, CALIFORNIA

PROJECT NO. 33109.1 SEPTEMBER 23, 2014

Prepared For:

MBTK Homes, LLC c/o Thatcher Engineering & Associates, Inc. 1461 Ford Street, Suite 105 Redlands, California 92373

Attention: Ms. Kayla Jordan

September 23, 2014

MBTK Homes, LLC c/o Thatcher Engineering & Associates, Inc. 1461 Ford Street, Suite 105 Redlands, California 92373 Project No. 33109.1

Attention: Ms

Ms. Kayla Jordan

Subject:

Preliminary Geotechnical Investigation and Infiltration Feasibility Investigation, APN's 411-150-012, 411-160-006, and a Portion of 411-160-032, SWC of 4th Street and Robertson Circle, Calimesa, California.

LOR Geotechnical Group, Inc., is pleased to present this report summarizing our geotechnical investigation for the above referenced project. In summary, it is our opinion that the proposed development is feasible from a geotechnical perspective, provided the recommendations presented in the attached report are incorporated into design and construction.

The project site is underlain by loose to medium dense alluvial materials within the upper 3 to 5 feet. It is our opinion that the existing upper loose alluvial soils will not provide uniform and/or adequate support for the proposed development. Thus, we recommend a compacted fill mat be constructed beneath footings and slabs. The fill mat should be a minimum of 24 inches thick below the bottom of the footings. The construction of this compacted fill mat will allow for the removal of the existing, uncontrolled fills and upper soft/loose alluvium. Removals on the order of 3 to 5 feet are anticipated to be required within the proposed improvement areas. Locally, fill materials may be present within the currently developed southeast corner and previously developed southwest corner of the site. Removals of such materials in addition to any loose alluvial materials will be required.

MBTK Homes, LLC September 23, 2014 33109.1

Very low expansive soils and moderate R-value quality soils were encountered on the site. A negligible sulfate content was found for the majority of the soils tested. Near completion and/or at the completion of site grading, foundation and subgrade soils should be sampled and tested to verify their expansion potential, soluble sulfate content, and R-value quality.

LOR Geotechnical Group, Inc.

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APPENDICES

Appendix A - Index Map, Site Plan, Regional Geologic Map, and Historical Seismicity Maps

Appendix B - Field Investigation Program and Trench Logs

Appendix C - Laboratory Testing Program and Results

Appendix D - Infiltration Test Results

INTRODUCTION

During September of 2014, a Preliminary Geotechnical Investigation and Infiltration Feasibility Investigation was performed by LOR Geotechnical Group, Inc. for proposed residential development of APN's 411-150-012, 411-160-006, and a portion of 411-160-032, located at the southwest intersection of 4th Street and Robertson Circle in the City of Calimesa, California. The purpose of this investigation was to provide a technical evaluation of the geologic setting of the site and to provide geotechnical design recommendations for the proposed development. The scope of our services included:

- Review of available pertinent geotechnical literature, reports, maps, and agency information pertinent to the study area;
- Geologic field reconnaissance mapping to verify the areal distribution of earth units and significance of surficial features as compiled from documents, literature, and reports reviewed;
- A subsurface field investigation to determine the physical soil conditions pertinent to the proposed development;
- Infiltration testing of the near surface soils via the double ring infiltrometer method;
- Laboratory testing of selected soil samples obtained during the field investigation;
- Development of geotechnical recommendations for site grading and foundation design; and
- Preparation of this report summarizing our findings, and providing conclusions and recommendations for site development.

The approximate location of the site is shown on the attached Index Map, Enclosure A-1, within Appendix A.

To orient our investigation at the site, you provided us with a Site Plan, dated August 20, 2014. The existing site conditions are shown on this map and a copy of this map was utilized as a base for our Site Plan, Enclosure A-2, within Appendix A.

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PROJECT CONSIDERATIONS

Information furnished to this firm indicates the proposed project will consist of the construction of $30 \pm$ residential building pads and associated improvements on the 7 \pm acre site.

The structures are anticipated to be one to two stories and of wood frame construction with an exterior plaster veneer. Light to moderate foundation loads are anticipated with such structures.

Based upon our review of the current site topographic conditions compared to proposed grades, it is anticipated that site grading will consist of minor cuts and fills of less than 5 feet to create the residential building pads.

EXISTING SITE CONDITIONS

The subject site consists of two parcels and a portion of a third which together are a roughly rectangular shaped comprising $7\pm$ acres of land located on the southwest corner of 4^{th} Street and Robertson Circle in the City of Calimesa, California. The property generally consists of planar land that slopes gently to the west. Based on the map provided, elevations across the site reach a high of approximately 2,458 feet in the eastern portion to a low of approximately 2,440 feet in the western portion.

Access to the site is via 4th Street. The site currently contains two single family residences and outbuildings in the southeast corner of the site while the remainder is vacant of structures. Interior and exterior fences area present. Numerous stored automobiles were present near the structures. A residence also previoulsy stood within the far southwest portion of the site. Vegetation is sparse with minor weeds and grasses with some trees present primarily near the structures and within the southwestern portion of the site. Drainage across the site is via sheet flow to the east to west.

Adjacent properties consist of large lot single family residences to the south and west, a residential tract of single family homes to the east, and a park to the north.

MBTK Homes, LLC September 23, 2014

FIELD EXPLORATION PROGRAM

Our subsurface field exploration program was conducted on September 3, 2014 and included the excavation, logging, sampling, and backfilling of six exploratory trenches dug using and a New Holland backhoe equipped with 24-inch bucket. The trenches were excavated to depths ranging from 8 to 14 feet below the existing ground surface. The approximate locations of our exploratory trenches are presented on the enclosed Site Plan, Enclosure A-2, within Appendix A.

Logs of the subsurface conditions encountered in the exploratory trenches were maintained by a geologist from this firm. Samples of the various soils encountered were obtained from the trenches at selected depths and returned to the laboratory in sealed containers for further testing and evaluation.

In-place density tests were taken in accordance with ASTM D 2922, the Nuclear Gauge Method. Bulk samples of the encountered materials were obtained and returned to the laboratory in sealed containers for further testing and evaluation.

Detailed descriptions of the subsurface field exploration program and the trench logs are presented in Appendix B.

LABORATORY TESTING PROGRAM

Selected soil samples obtained during the field investigation were subjected to laboratory testing to evaluate their physical and engineering properties. Laboratory testing included moisture content, dry density, laboratory compaction, direct shear, sieve analysis, sand equivalent, R-value, expansion index, and soluble sulfate content. A detailed description of the laboratory testing program and the test results are presented in Appendix C.

GEOLOGIC CONDITIONS

Regional Geologic Setting

The subject site is located along the junction of two major geomorphic provinces of southern California, or at the end of the Peninsular Ranges geomorphic province where it meets the Transverse Ranges geomorphic province. The Peninsular Ranges include

a series of small northwestern trending mountains, separated by wide flat valleys, that extend from the Los Angeles region southeastward into Baja, California. The northern margin of this province butts up against a series of mountain ranges that lie in a transverse direction to the normal northwestern trend, or extend east and west. These mountains include the Santa Monica Mountains, the San Gabriel Mountains, and the San Bernardino Mountains that lie just north and east of the city of Calimesa. In the Calimesa locality, these two major provinces are termed the Peninsular Ranges Block to the south and the San Bernardino Mountains Block to the north and are separated by a series of complex faults known collectively as the San Andreas Fault Zone. In this tectonically complex area, the Peninsular Ranges Block is generally sliding to the northwest, and partially thrusted underneath the San Bernardino Mountains Block. Therefore, the resulting faults end up with a complex mix of strike slip and thrust faults.

The San Andreas fault, which lies approximately 8 kilometers (5 miles) to the northeast, acts as the boundary between the Peninsular and Transverse Ranges provinces. The next largest active fault in the region, in terms of total movement and anticipated magnitudes, is the San Jacinto fault which lies approximately 9 kilometers (5.5 miles) to the southwest. This fault has similar motions to the San Andreas or right lateral strike slip.

While the trend of the San Andreas fault is predominately a relatively straight line across much of California, in the area just north of Indio, the San Andreas fault has an approximately 15-mile wide step-over zone, stepping to the west and cutting across the San Gorgonio Pass then up to the eastern end of the city of Yucaipa. Beyond this to the northwest, the trend of the fault once again resumes a northwesterly course. This twisting motion has results in a complex tectonic setting in the region between the San Andreas and the San Jacinto, which is not as yet completely understood. However, in general, the result of this geometry is that along the San Gorginio pass and up into the Yucaipa region the motion changes from right lateral strike slip to thrusting. Within the Calimesa-Yucaipa region, this complex motion has resulted in several types of motions, extension with tectonic activity, including essentially all types of fault motions, from right lateral strike slip, or horizontal, to thrusting and normal, or tensional faulting along a numerous series of smaller fault splays.

One of the largest of these smaller splays is the Banning fault, lying along the base of the San Bernardino Mountains and situated approximately 1,600 feet to the southwest of the site. This fault appears to be the dominate thrust in the western end of the pass, joining the San Gorgonio Pass Fault Zone to the east with the motion changing to strike slip.

Therefore, the topography of the land in this region has been drastically altered by differing tectonic forces, which have resulted in the uplifting of the region east of the site. The bedrock materials underlying the region of the small hills to the east of Calimesa are composed of a complex mix of metamorphic rocks of gneiss, schist, phyllite, and meta-igneous rocks of meta-diorite to meta-granotoid rocks. These rocks are very similar in composition to the basement rocks of the far southeastern end of the San Bernardino Mountains Block.

As noted above, the closest known potentially active fault in relation to the subject site is the Banning fault, located just under 0.5 kilometer (0.3 miles) to the southwest, while the much larger, active San Andreas fault is located approximately 8 kilometers (5 miles) to the northeast. A complete listing of the distances to known active faults in relation to the site is given in the <u>Faulting</u> section of this report.

The regional geology as mapped by the U.S.G.S. (Matti et al, 2003) and partial legend is shown on Enclosure A-3, within Appendix A.

Site Geologic Conditions

The site is underlain by alluvial soils. These materials are locally disturbed within the upper 0.5 feet. The earth materials encountered during our investigation are described below and on the enclosed trench logs in Appendix B.

Alluvium:

Alluvial materials consisting of silty sand were found to underlie the site as explored to a depth of approximately 14 feet. These alluvial materials were noted to be generally damp, porous, and in a loose state within the upper 3 to 5 feet. Beneath this depth, the alluvial materials became less porous and were in a medium dense to dense state.

Groundwater Hydrology

Groundwater was not encountered in any of our exploratory trenches, nor was any groundwater seepage observed during our site reconnaissance.

According to information available from the California Department of Water Resources, one groundwater well lies approximately 0.75 kilometers to the southwest of the site. The depth in groundwater this well (State well No. 02S02W0J002S) was approximately 155 feet during the time period from 1998 through 2010. This well lies at an elevation of 2,418 feet above mean sea level.

Historic groundwater information was obtained from the Minimum Depth to Ground Water, Upper Santa Ana River Valley, California, 1973 to 1979 map (Carson and Matti, 1985). This map shows groundwater lied at a depth of approximately 200 feet during that time period in the site area.

Based on the elevation of the site on the plan provided, 2,440, and the depth to groundwater in the nearby well and map noted above, groundwater is anticipated to be present at a depth of greater than 150 feet beneath the site.

Surface Runoff

Current surface runoff of precipitation waters across the site is generally as sheetflow to the west.

Mass Movement

The site lies on a relatively flat surface. Mass movement failures such as landslides, rockfalls, or debris flows within the site vicinity are not known to exist and no evidence of mass movement was observed on the site.

Faulting

There are no known active faults at the site. In addition, according to the Official Maps of Alguist-Priolo Earthquake Fault Zones of California (Hart and Bryant, 1997) the subject site does not lie within a current State of California Earthquake Fault Zone.

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As previously noted, the subject site lies near the middle of a large wedge shaped area in between the San Jacinto fault, located approximately 9 kilometers (5.5 miles) to the southwest and the San Andreas, which lies approximately8 kilometers (5 miles) to the northeast. Both of these faults are considered to be major active faults which move in a lateral fashion with the northwest portions offset to the southeast during earthquakes. This type of motion is called right lateral strike slip. The San Andreas fault is considered to be the major tectonic feature of California, separating the Pacific plate and the North American plate. While estimates vary, the San Andreas fault is generally thought to have an average slip range on the order of 24 mm/yr and capable of generating large magnitude events on the order of 7.5 or greater.

The San Jacinto fault zone is a sub-parallel branch of the San Andreas fault zone, extending from the northwestern San Bernardino area, southward into the El Centro region. It is believed that the San Jacinto fault zone has an average slip rate of about 12 mm/year and is capable of producing an earthquake magnitude on the order of 6.5 or greater.

Lying in between these two faults are numerous smaller faults with varying types of motion. Perhaps the largest of these, based on length and estimated amounts of past displacement, in the region around the site is the Banning fault. Based on mapping conducted by the USGS, the Banning fault bifurcates off of the San Andreas fault just north of Indio, then extends through the Banning-Beaumont pass area and into the Calimesa area. While some reports claim that the Beaumont fault has been inactive since earliest Pleistocene time (1.8 million years ago), the State of California has placed the Calimesa portion of the Banning fault within an Earthquake Fault Zone on their maps of the Alquist-Priolo Earthquake Fault Zones of California. According to mapping by others, at its closest approach the Banning fault lies approximately 1,600 feet southwest of the subject site (Matti, et al, 2003).

Another known active fault is the Chicken Hill fault located approximately 3.5 kilometers (2 miles) to the northwest.

The Chicken Hill fault is considered part of numerous faults collectively called the Crafton Hills Complex. The Crafton Hills Complex is comprised of numerous intra faults created by the interaction of the San Andreas fault to the northeast and the San Jacinto fault to the southwest which are poorly understood. The possible earthquake magnitude and recurrence interval of this fault system is not known.

Current standards of practice included a discussion of all potential earthquake sources within a 100 kilometer (62 mile) radius. However, while there are other large earthquake faults within a 100 kilometer (62 mile) radius of the site, none of these are considered as relevant to the site as the faults described above, due to their greater distance and smaller anticipated magnitudes.

Historical Seismicity

In order to obtain a general perspective of the historical seismicity of the site and surrounding region, a search was conducted for seismic events at and around the area within various radii. This search was conducted utilizing the historical seismic search program by EPI Software, Inc. (Reeder, 2000). This program conducts a search of a user selected cataloged seismic events database, within a specified radius and selected magnitudes, and then plots the events onto an overlay map of known faults. For this investigation the database of seismic events utilized by the EPI program was obtained from the Southern California Seismic Network (SCSN) available from the Southern California Earthquake Center. At the time of our search the data base contained data from January 1, 1932 through December 31, 2010.

In our first search, the general seismicity of the region was analyzed by selecting an epicenter map listing all events of magnitude 4.0 and greater, recorded since 1932, within a 100 kilometer (62 mile)radius of the site, in accordance with guidelines of the California Division of Mines and Geology. This map illustrates the regional seismic history of moderate to large events. As depicted on Enclosure A-4, within Appendix A, the site lies within a relatively active region associated with the San Andreas fault trending northwest and the northwest trending faulting of the Mojave Desert geomorphic province. Of these events, the closest was a magnitude 4.0 located approximately 6 kilometers (3.7 miles) to the north of the site. The 7.3 magnitude Landers earthquake and associated aftershocks including the 6.4 magnitude Big Bear earthquake are illustrated on this map, located to the northeast of the site. In addition, the 7.1 magnitude Hector Mine earthquake is also illustrated.

In the second search, the micro seismicity of the area lying within a 10 kilometer (62 mile) radius of the site was examined by selecting an epicenter map listing events on the order of 1.0 and greater since 1978. In addition, only the "A" events, or most accurate events were selected. Caltech indicates the accuracy of the "A" events to be approximately 1 km. The results of this search is a map that presents the seismic

history around the area of the site with much greater detail, not permitted on the larger map. The reason for limiting the events to the last $35 \pm \text{years}$ on the detail map is to enhance the accuracy of the map. Events recorded prior the mid 1970's are generally considered to be less accurate due to advancements in technology. As depicted on this map, Enclosure A-5, the San Andreas and San Jacinto fault zones appear to be the source of numerous events.

In summary, the historical seismicity of the site entails numerous small to medium magnitude earthquake events occurring around the subject site, predominately associated with the presence of the San Andreas and San Jacinto fault zones. Any future developments at the subject site should anticipate that moderate to large seismic events could occur very near the site.

Secondary Seismic Hazards

Other secondary seismic hazards generally associated with severe ground shaking during an earthquake include liquefaction, seiches and tsunamis, earthquake induced flooding, landsliding and rockfalls, and seismic-induced settlement.

<u>Liquefaction</u>: The potential for liquefaction generally occurs during strong ground shaking within loose granular sediments where the depth to groundwater is usually less than 50 feet. As the site is underlain by relatively medium dense to dense alluvial materials and the depth to groundwater is thought to be in excess of 50 feet, the possibility of liquefaction at the site is considered nil.

<u>Seiches/Tsunamis</u>: The potential for the site to be affected by a seiche or tsunami (earthquake generated wave) is considered nil due to absence of any large bodies of water near the site.

<u>Flooding (Water Storage Facility Failure)</u>: There are no large water storage facilities located on or near the site which could possibly rupture during an earthquake and affect the site by flooding.

<u>Seismically-Induced Landsliding</u>: Due to the low relief of the site and surrounding region, the potential for landslides to occur at the site is considered nil.

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<u>Rockfalls</u>: No large, exposed, loose or unrooted boulders are present above the site that could affect the integrity of the site.

<u>Seismically-Induced Settlement:</u> Settlement generally occurs within areas of loose, granular soils with relatively low density. Since the site is underlain by relatively medium dense to dense alluvial materials, the potential for settlement is considered low. In addition, the earthwork operations recommended to be conducted during the development of the site will mitigate any near surface loose soil conditions.

SOILS AND SEISMIC DESIGN CRITERIA (California Building Code 2013)

Section 1613 of Chapter 16 of the 2013 California Building Code (CBC) contains the procedures and definitions for the calculations of the earthquake loads on structures and non structural components that are permanently attached to structures and their supports and attachments.

It should be noted that the classification of use and occupancy of all proposed structures at the site, and thus design requirements, shall be the responsibility of the structural engineer and the building official.

CBC Earthquake Design Summary

The following earthquake design criteria have been formulated for the site utilizing the source referenced above.

However, these values should be reviewed by the building official (Risk Category) and structural engineer and the final design should be performed by a qualified structural engineer familiar with the region.

CBC 2013 SEISMIC DESIGN SUMMARY Site Location (USGS WGS84) 34.0016, -117.0533, Risk Category II				
Site Class Definition (Table 1613.3.1(1))				
S _s Mapped Spectral Response Acceleration at 0.2s Period, (Figure 1613.3.1(2)) 1.568				
S ₁ Mapped Spectral Response Acceleration at 1s Period, (Figure 1613.3.3(11)) 0.742				
F _a Short Period Site Coefficient at 0.2s Period, (Table 1613.3.3(11))	1.0			

CBC 2013 SEISMIC DESIGN SUMMARY Site Location (USGS WGS84) 34.0016, -117.0533, Risk Category II					
F _v Long Period Site Coefficient at 1s Period,(Table 1613.3.3(2))	1.5				
S _{MS} Adjusted Spectral Response Acceleration at 0.2s Period, (eq .16-37)	1.568				
S _{M1} Adjusted Spectral Response Acceleration at 1s Period, (eq .16-38)					
S _{ps} Design Spectral Response Acceleration at 0.2s Period,(eq .16-39) 1.04					
S _{D1} Design Spectral Response Acceleration at 1s Period, (eq .16-40) 0.742					
Seismic Design Category - Short Period (Table 1613.3.5(1))					
Seismic Design Category - Long Period (Table 1613.3.5(2)) D					

INFILTRATION TESTING AND TEST RESULTS

One double ring infiltration tests was conducted at each of the two locations illustrated on Enclosure A-2. Two test pits were excavated to depths of approximately 5 and 8 feet below the existing ground surface and a 12-inch diameter casing was installed within the center of each test location with a 24-inch diameter casing centered around it. Each casing was imbedded to a depth of approximately 3 inches. These liners extended approximately 17-inches above the bottom of the test location. The test location was tested immediately after the casings were installed by filling both the inside and outside casings and maintaining a water level to a depth of approximately 3.0-inches.

The testing procedure was as follows:

Both the inside and outside areas of the casings were filled with water to a level of approximately 3.0-inches above the ground surface. Water was then metered to maintain this water level within both rings. The volume of water use in a given time period was recorded at various time intervals to establish the infiltration rate of the inner ring. See the attached Infiltration Test Data sheets, Enclosures D-1 and D-2 within Appendix D for the test information and measurements.

The infiltration rate is measured as the drop in water level compared to the permeability of the bottom surface area soils in the bottom of the test hole. If casing is not used, the water column in the test hole is allowed to seep into both the bottom and sidewalls of the hole, for which the drop in water level must be corrected and

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reduced for the volume of water seeping into the sidewall and for the diameter of the test hole. As described above, the tests described herein were conducted using a 12-inch diameter inner casing and 24-inch diameter outer casing.

The test holes were found to have the following measured clear water infiltration rates:

- C1	Infiltration Rate*			
Infiltration Test No.	gal/sf/day	in/hr 0.3		
DRI-1	4.1			
DRI-2	4.1	0.3		

The clear water percolation rate obtained in our test locations was 0.3 inches per hour.

Our infiltration test data indicates very poor absorption characteristics of the soils tested.

CONCLUSIONS

General

This investigation provides a broad overview of the geotechnical and geologic factors which are expected to influence future site planning and development. On the basis of our field investigation and testing program, it is the opinion of LOR Geotechnical Group, Inc. that the proposed development is feasible from a geotechnical standpoint, provided the recommendations presented in this report are incorporated into design and implemented during grading and construction.

The subsurface conditions encountered in our exploratory trenches and boring are indicative of the locations explored. The subsurface conditions presented here are not to be construed as being present the same everywhere on the site. If conditions are encountered during the construction of the project which differ significantly from

those presented in this report, this firm should be notified immediately so we may assess the impact to the recommendations provided.

Foundation Support

Based upon the field investigation and test data, it is our opinion that the upper portions of the looser alluvial soil, will not, in their present conditions, provide uniform and/or adequate support for the proposed structures. Our in-place density results indicated that the upper alluvium ranges from loose to medium dense. Left as is, this condition could cause unacceptable differential and/or overall settlements upon application of the anticipated foundation loads.

To provide adequate support for the proposed structures, we recommend that a compacted fill mat be constructed beneath footings and slabs. This compacted fill mat will provide a dense, high-strength soil layer to uniformly distribute the anticipated foundation loads over the underlying soils. In addition, the construction of this compacted fill mat will allow for the removal of the upper loose alluvial soil within the building pad areas. Conventional foundation systems using either individual spread footings and/or continuous wall footings, will provide adequate support for the anticipated downward and lateral loads when utilized in conjunction with the recommended fill mat.

Soil Expansiveness

As noted by our explorations and testing, the majority of the site surficial soils consist of silty sands with a very low expansion potential. Therefore, conventional design and construction should be applicable for the project.

Careful evaluation of on-site soils and any import fill for their expansion potential should be conducted during the grading operation.

Geologic Mitigations

No special geologic recommendation methods are deemed necessary at this time, other than the geotechnical recommendations provided in the following sections.

Seismicity

Seismic ground rupture is generally considered most likely to occur along pre-existing active faults. Since no known faults are known to exist at, or project into the site, the probability of ground surface rupture occurring at the site is considered nil.

Due to the site's close proximity to the faults described above, it is reasonable to expect a strong ground motion seismic event to occur during the lifetime of the proposed development on the site. Large earthquakes could occur on other faults in the general area, but because of their lesser anticipated magnitude and/or greater distance, they are considered less significant than the faults described above from a ground motion standpoint.

The effects of ground shaking anticipated at the subject site should be mitigated by the seismic design requirements and procedures outlined in Chapter 16 of the California Building Code. However, it should be noted that the current building code requires the minimum design to allow a structure to remain standing after a seismic event, in order to allow for safe evacuation. A structure built to code may still sustain damage which might ultimately result in the demolishing of the structure (Larson and Slosson, 1992).

RECOMMENDATIONS

Geologic Recommendations

No special geologic recommendation methods are deemed necessary at this time, other than the geotechnical recommendations provided in the following sections.

General Site Grading

It is imperative that no clearing and/or grading operations be performed without the presence of a qualified geotechnical engineer. An on-site, pre-job meeting with the owner, the developer, the contractor, and geotechnical engineer should occur prior to all grading related operations. Operations undertaken at the site without the geotechnical engineer present may result in exclusions of affected areas from the final compaction report for the project.

Grading of the subject site should be performed in accordance with the following recommendations as well as applicable portions of the California Building Code, and/or applicable local ordinances.

All areas to be graded should be stripped of significant vegetation and other deleterious materials.

It is our recommendation that all existing fills under any proposed flatwork and paved areas be removed and replaced with engineered compacted fill. If this is not done, premature structural distress (settlement) of the flatwork and pavement may occur. Any undocumented fills encountered during grading should be completely removed and cleaned of significant deleterious materials. These may then be reused as compacted fill. Such materials are anticipated to be present locally in the currently and previously developed areas within the southeast and southwest corners of the site.

Cavities created by removal of subsurface obstructions should be thoroughly cleaned of loose soil, organic matter and other deleterious materials, shaped to provide access for construction equipment, and backfilled as recommended in the following Engineered_Compacted Fill section of this report.

Initial Site Preparation

All existing topsoils, any uncontrolled fills, and all loose alluvial materials should be removed from structural areas and areas to receive structural fills. The data developed during this investigation indicates that removals on the order of 3 to 5 feet will be required to encounter competent alluvium. Competent alluvium is defined as damp, relatively dense materials with a minimum in-place relative compaction of 85 percent (ASTM D 1557). Removals should extend at a distance equal to the depth of the removals plus proposed fill and at least a minimum of 5 feet. The actual depths of removals should be determined during the grading operation by observation and in-place density testing. Locally, removals greater than 5 feet may be required within the currently developed area in the southeast corner of the site.

Preparation of Fill Areas

After the removals of the loose, unsuitable portions of the alluvial materials as described above and prior to placing fill, the surfaces of all areas to receive fill should

be scarified to a depth of at least 12 inches. The scarified soil should be brought to near optimum moisture content and compacted to a relative compaction of at least 90 percent (ASTM D 1557).

Preparation of Foundation Areas

All footings should rest upon a minimum of 24 inches of properly compacted fill material placed over competent alluvium. Based on the recommended removals discussed above, it is anticipated that this will be accomplished in most areas. However, in areas where the required fill thickness is not accomplished by the removal of any surficial topsoils, any old fill, and the loose alluvial materials and site rough grading, the footing areas should be further subexcavated to a depth of at least 24 inches below the proposed footing base grade, with the subexcavation extending at least 5 feet beyond the footing lines. The bottom of this excavation should then be scarified to a depth of at least 12 inches, brought to near optimum moisture content, and recompacted to at least 90 percent relative compaction (ASTM D 1557) prior to refilling the excavation to grade as properly compacted fill.

Engineered Compacted Fill

The on-site soils should provide adequate quality fill material, provided they are free from organic matter and other deleterious materials. Unless approved by the geotechnical engineer, rock or similar irreducible material with a maximum dimension greater than 6 inches should not be buried or placed in fills.

Import fill, if required, should be inorganic, non-expansive granular soils free from rocks or lumps greater than 6 inches in maximum dimension. Sources for import fill should be approved by the geotechnical engineer prior to their use.

Fill should be spread in maximum 8-inch uniform, loose lifts, with each lift brought to near optimum moisture content prior to, during and/or after placement, and compacted to a relative compaction of at least 90 percent in accordance with ASTM D 1557.

Based upon the relative compaction of the near surface soils determined during this investigation and the relative compaction anticipated for compacted fill soil, we estimate a compaction shrinkage factor of approximately 15 to 20 percent. Therefore, 1.15 cubic yards to 1.20 cubic yards of in-place materials would be necessary to yield

one cubic yard of properly compacted fill material. In addition, we would anticipate subsidence of approximately 0.20 feet. These values are for estimating purposes only, and are exclusive of losses due to stripping or the removal of subsurface obstructions. These values may vary due to differing conditions within the project boundaries and the limitations of this investigation. Shrinkage should be monitored during construction. If percentages vary, provisions should be made to revise final grades or adjust quantities of borrow or export.

Short-Term Excavations

Following the California Occupational and Safety Health Act (CAL-OSHA) requirements, excavations 5 feet deep and greater should be sloped or shored. All excavations and shoring should conform to CAL-OSHA requirements.

Short-term excavations 5-feet deep and greater shall conform to Title 8 of the California Code of Regulations, Construction Safety Orders, Section 1504 and 1539 through 1547. Based on our exploratory trenches and boring, it appears that Type C soil is the predominant type of soil on the project and all short-term excavations should be based on this type of soil. Deviation from the standard short-term slopes are permitted using Option 4, Design by a Registered Professional Engineer (Section 1541.1).

Short-term slope construction and maintenance are the responsibility of the contractor, and should be a consideration of his methods of operation and the actual soil conditions encountered.

Slope Construction

Preliminary data indicates that cut and fill slopes should be constructed no steeper than two horizontal to one vertical. Fill slopes should be overfilled during construction and then cut back to expose fully compacted soil. A suitable alternative would be to compact the slopes during construction, then roll the final slopes to provide dense, erosion-resistant surfaces.

Where fills are to be placed against existing slopes steeper than five horizontal to one vertical, the existing slopes should be properly keyed and benched into competent native materials. The key, constructed across the toe of the slope, should be a

minimum of 12 to 15 feet wide, a minimum of 2 feet deep at the toe, and sloped back to 2 percent. Benches should be constructed at approximately 2 to 4 foot vertical intervals.

Slope Protection

Since the native materials are susceptible to erosion by running water, measures should be provided to prevent surface water from flowing over slope faces. Slopes at the project should be planted with a deep rooted ground cover as soon as possible after completion. The use of succulent ground covers such as iceplant or sedum is not recommended. If watering is necessary to sustain plant growth on slopes, then the watering operation should be monitored to assure proper operation of the irrigation system and to prevent over watering.

Foundation Design

If the site is prepared as recommended, the proposed residential structures may be safely founded on conventional spread foundation systems, either individual spread footings and/or continuous wall footings, bearing on a minimum of 24 inches of engineered compacted fill. All foundations should have a minimum width of 12 inches and should be established a minimum of 12 inches below lowest adjacent grade.

For the minimum width and depth, footings may be designed using a maximum soil bearing pressure of 1,800 pounds per square foot (psf) for dead plus live loads. Footings at least 15 inches wide, placed at least 18 inches below the lowest adjacent final grade, may be designed for a maximum soil bearing pressure of 2,100 psf for dead plus live loads.

The above values are net pressures; therefore, the weight of the foundations and the backfill over the foundations may be neglected when computing dead loads. The values apply to the maximum edge pressure for foundations subjected to eccentric loads or overturning. The recommended pressures apply for the total of dead plus frequently applied live loads, and incorporate a factor of safety of at least 3.0. The allowable bearing pressures may be increased by one-third for temporary wind or seismic loading. The resultant of the combined vertical and lateral seismic loads should act within the middle one-third of the footing width. The maximum calculated edge

pressure under the toe of foundations subjected to eccentric loads or overturning should not exceed the increased allowable pressure.

Resistance to lateral loads will be provided by passive earth pressure and base friction. For footings bearing against compacted fill, passive earth pressure may be considered to be developed at a rate of 350 pounds per square foot per foot of depth. Base friction may be computed at 0.35 times the normal load. Base friction and passive earth pressure may be combined without reduction.

Footings on very low expansive soils will not required any particular reinforcement from the geotechnical standpoint.

Settlement

Total settlement of individual foundations will vary depending on the width of the foundation and the actual load supported. Maximum settlement of shallow foundations designed and constructed in accordance with the preceding recommendations are estimated to be on the order of 0.5 inch. Differential settlements between adjacent footings should be about one-half of the total settlement. Settlement of all foundations is expected to occur rapidly, primarily as a result of elastic compression of supporting soils as the loads are applied, and should be essentially completed shortly after initial application of the loads.

Building Area Slab-On-Grade

To provide adequate support, concrete slabs-on-grade should bear on a minimum of 12 inches of compacted soil. The final pad surfaces should be rolled or track-walked to provide fairly smooth, dense surfaces upon which to place the concrete.

If very low expansive soils are found underlying slab areas, no particular geotechnical and/or structural mitigation measures to control expansive soil problems will be required.

Slabs to receive moisture-sensitive coverings should be provided with a moisture vapor barrier. This barrier may consist of an impermeable membrane. Two inches of sand over and two inches of sand below the membrane will reduce punctures and aid in

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obtaining a satisfactory concrete cure. The sand should be moistened just prior to placing of concrete.

The slabs should be protected from rapid and excessive moisture loss which could result in slab curling. Careful attention should be given to slab curing procedures, as the site area is subject to large temperature extremes, humidity, and strong winds.

Exterior Flatwork

To provide adequate support, exterior flatwork improvements should rest on a minimum of 12 inches of soil compacted to at least 90 percent (ASTM D 1557).

If very low expansive soils are found underlying flatwork areas, no particular geotechnical and/or structural mitigation measures to counteract expansive soil problems will be required.

Flatwork surface should be sloped a minimum of 1 percent away from buildings and slopes, to approved drainage structures.

Wall Pressures

The design of footings for retaining structures should be performed in accordance with the recommendations described earlier under Preparation of Foundation Areas and Foundation Design. For design of retaining wall footings, the resultant of the applied loads should act in the middle one-third of the footing, and the maximum edge pressure should not exceed the basic allowable value without increase.

For design of retaining walls unrestrained against movement at the top, we recommend an equivalent fluid density of 40 pounds per cubic foot (pcf) be used. This assumes level backfill consisting of recompacted, non-expansive, native soils placed against the structures and with the backcut slope extending upward from the base of the stem at 35 degrees from the vertical or flatter.

To avoid overstressing or excessive tilting during placement of backfill behind walls, heavy compaction equipment should not be allowed within the zone delineated by a 45 degree line extending from the base of the wall to the fill surface. The backfill

directly behind the walls should be compacted using light equipment such as hand operated vibrating plates and rollers. No material larger than 3-inches in diameter should be placed in direct contact with the wall.

Wall pressures should be verified prior to construction, when the actual backfill materials and conditions have been determined. Recommended pressures are applicable only to level, non-expansive, properly drained backfill (with no additional surcharge loadings). If inclined backfills are proposed, this firm should be contacted to develop appropriate active earth pressure parameters. Toe bearing pressure for non-structural walls on soils, not prepared as described earlier under Preparation of Foundation Areas, should not exceed California Building Code values.

Preliminary Pavement Design

Testing and design for preliminary on-site and off-site pavements was conducted in accordance with the California Highway Design Manual. Based upon our preliminary sampling and testing, and upon assumed Traffic Indices, it appears that the structural sections tabulated below should provide satisfactory pavements for the subject improvements:

T.I.	DESIGN R-VALUE	PRELIMINARY SECTION					
5.0	30	0.25' AC/0.45'AB					
AC - Asphalt Concrete AB - Aggregate Base (Caltrans Class 2)							

The above structural sections are predicated upon 90 percent relative compaction (ASTM D 1557) of all utility trench backfills and 95 percent relative compaction (ASTM D 1557) of the upper 12 inches of street subgrade soils and of any aggregate base utilized. In addition, the aggregate base should meet Caltrans specifications for Class 2 aggregate base.

The above pavement designs were based upon the results of preliminary sampling and testing, and should be verified by additional sampling and testing when the actual subgrade soils are exposed.

Sulfate Protection

The results of the soluble sulfate tests conducted on selected subgrade soils expected to be encountered at foundation levels are presented on Enclosure C.

Based on the test results it appears that there is a negligible sulfate exposure to concrete elements in contact with on site soils. The CBC, therefore, does not recommend special design criteria for concrete elements in conduct with such materials.

<u>Infiltration</u>

Based upon our field investigation and infiltration test data, a clear water absorption rate of 0.3 inches per hour (4.1 gal/sf/day) appears to be applicable for the planned infiltration areas, as tested. A factor of safety should be applied as indicated by the San Bernardino County Stormwater Program, Technical Guidance Document for Water Quality Management Plans (WQMP). The design infiltration rate should be adjusted using a factor of safety determined using Worksheet H, with a minimum factor of safety applied of 2.0 (2011).

To ensure continued infiltration capability of the infiltration area, a program to maintain the facility should be considered. This program should include periodic removal of accumulated materials, which can slow the infiltration and decrease the water quality. Materials to be removed from the catch basin areas typically consist of litter, dead plant matter, and soil fines (silts and clays). Proper maintenance of the system is critical. A maintenance program should be prepared and properly executed. At a minimum, the program should be as outlined in the San Bernardino County Stormwater Program, Technical Guidance Document for Water Quality Management Plans (WQMP).

The program should also incorporate the recommendations contained within this report and any other jurisdictional agency requirements.

Systems should be set back at least 10 feet from foundations or as required by the design engineer.

Any geotextile filter fabric utilized should consist of such that it prevents soil piping but has greater permeability than the existing soil.

During site development, care should be taken to not disturb the area(s) proposed for infiltration as changes in the soil structure could occur resulting in a change of the soil infiltration characteristics.

Construction Monitoring

Post investigative services are an important and necessary continuation of this investigation. Project plans and specifications should be reviewed by the project geotechnical consultant prior to construction to confirm that the intent of the recommendations presented herein have been incorporated into the design. Additional R-Value, expansion index, and soluble sulfate testing may be required after the site is rough graded.

During construction, sufficient and timely geotechnical observation and testing should be provided to correlate the findings of this investigation with the actual subsurface conditions exposed during construction. Items requiring observation and testing include, but are not necessarily limited to, the following:

- 1. Site preparation-stripping and removals.
- 2. Excavations, including approval of the bottom of excavation prior to filling.
- 3. Scarifying and recompacting prior to fill placement.
- 4. Subgrade preparation for pavements and slabs-on-grade.
- Placement of engineered compacted fill and backfill, including approval of fill
 materials and the performance of sufficient density tests to evaluate the degree
 of compaction being achieved.
- Foundation excavations.

LIMITATIONS

This report contains geotechnical conclusions and recommendations developed solely for use by MBTK Homes, LLC c\o Thatcher Engineering & Associates, Inc., and their design consultants, for the purposes described earlier. It may not contain sufficient information for other uses or the purposes of other parties. The contents should not be extrapolated to other areas or used for other facilities without consulting LOR Geotechnical Group, Inc.

The recommendations are based on interpretations of the subsurface conditions concluded from information gained from subsurface explorations and a surficial site reconnaissance. The interpretations may differ from actual subsurface conditions, which can vary horizontally and vertically across the site. If conditions are encountered during the construction of the project which differ significantly from those presented in this report, this firm should be notified immediately in order that we may assess the impact to the recommendations provided. Due to possible subsurface variations, all aspects of field construction addressed in this report should be observed and tested by the project geotechnical consultant.

If parties other than LOR Geotechnical Group, Inc. provide construction monitoring services, they must be notified that they will be required to assume responsibility for the geotechnical phase of the project being completed by concurring with the recommendations provided in this report or by providing alternative recommendations.

The report was prepared using generally accepted geotechnical engineering practices under the direction of a state licensed geotechnical engineer. No warranty, expressed or implied, is made as to conclusions and professional advice included in this report. Any persons using this report for bidding or construction purposes should perform such independent investigations as deemed necessary to satisfy themselves as to the surface and subsurface conditions to be encountered and the procedures to be used in the performance of work on this project.

TIME LIMITATIONS

The findings of this report are valid as of this date. Changes in the condition of a property can, however, occur with the passage of time, whether they be due to natural processes or the work of man on this or adjacent properties. In addition,

changes in the Standards-of-Practice and/or Governmental Codes may occur. Due to such changes, the findings of this report may be invalidated wholly or in part by changes beyond our control. Therefore, this report should not be relied upon after a significant amount of time without a review by LOR Geotechnical Group, Inc. verifying the suitability of the conclusions and recommendations.

CLOSURE

It has been a pleasure to assist you with this project. We look forward to being of further assistance to you as construction begins. Should conditions be encountered during construction that appear to be different than indicated by this report, please contact this office immediately in order that we might evaluate their effect.

Should you have any questions regarding this report, please do not hesitate to contact us as your convenience.

Respectfully submitted,

LOR Geotechnical Group, Inc.

Andrew A. Tardie Staff Geologist

phn P. Leuer, GE 2030

esident

AAT:RMM:JPL/ejt

Robert M Markoff, CEG 2073

Engineering Geologist





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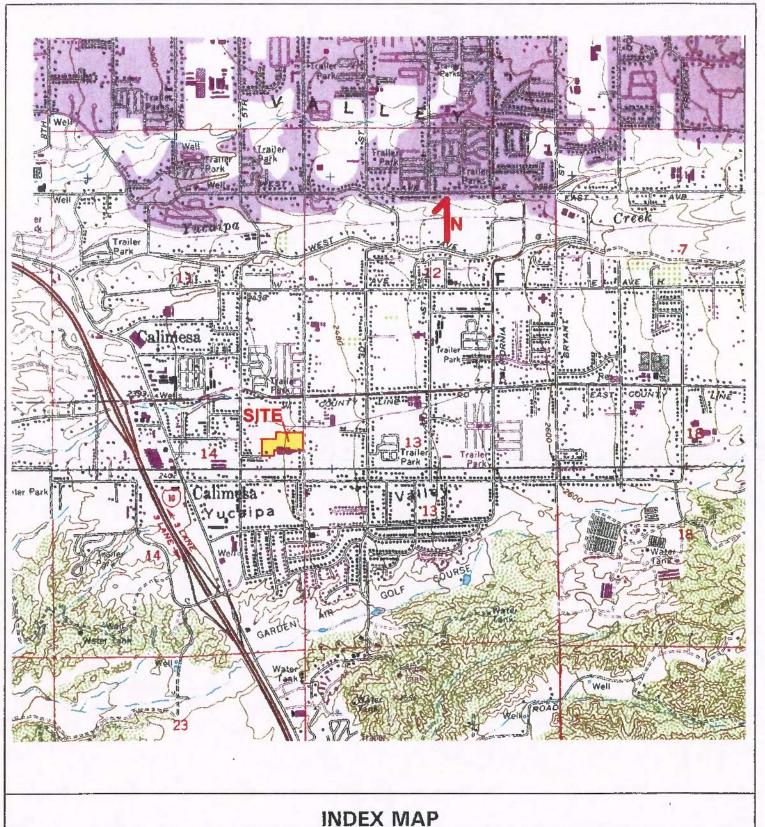
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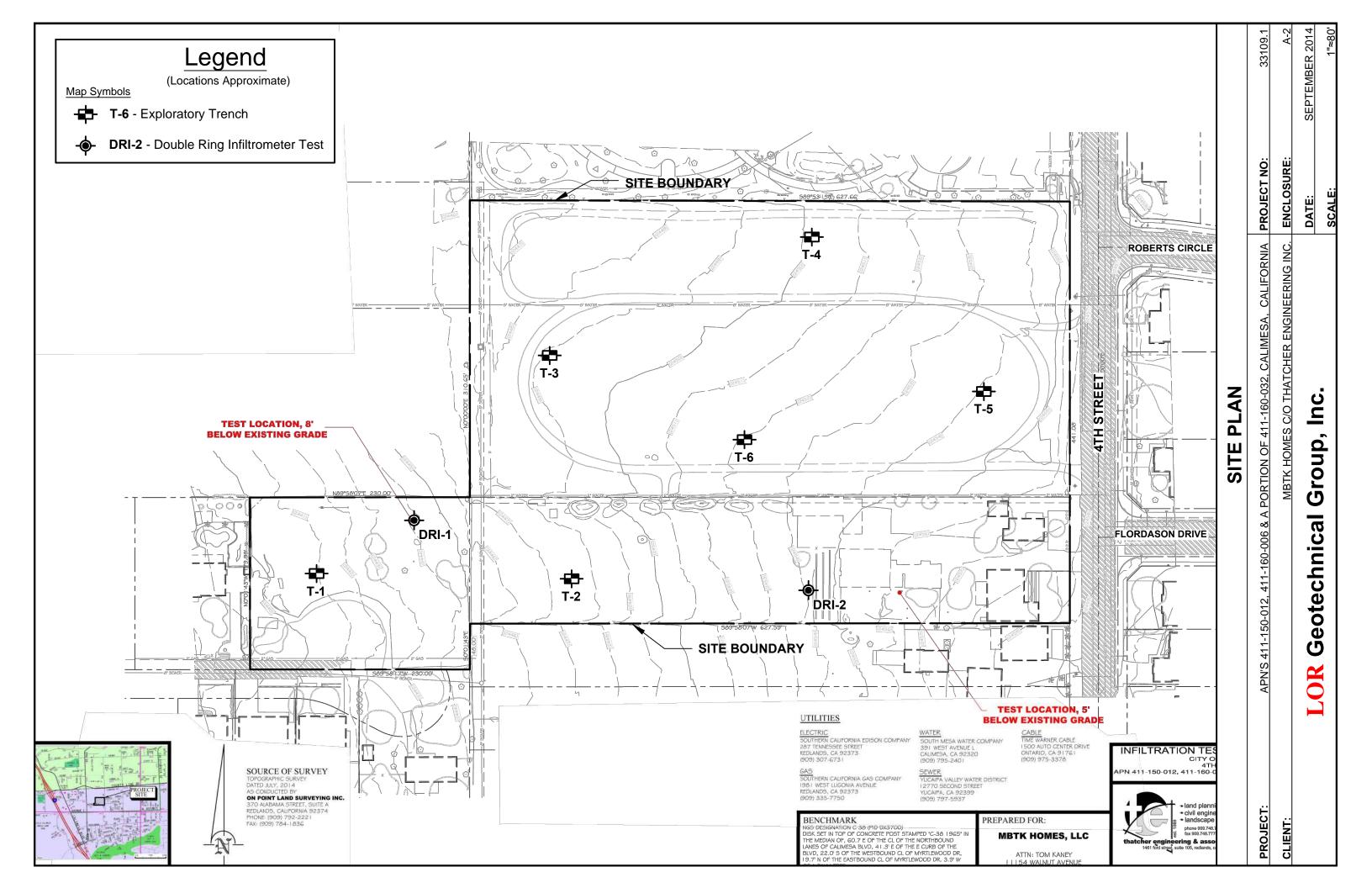
San Bernardino County Storwater Program Technical Guidance Document for Water Quality Management Plans (WQMP), dated July 28, 2011.

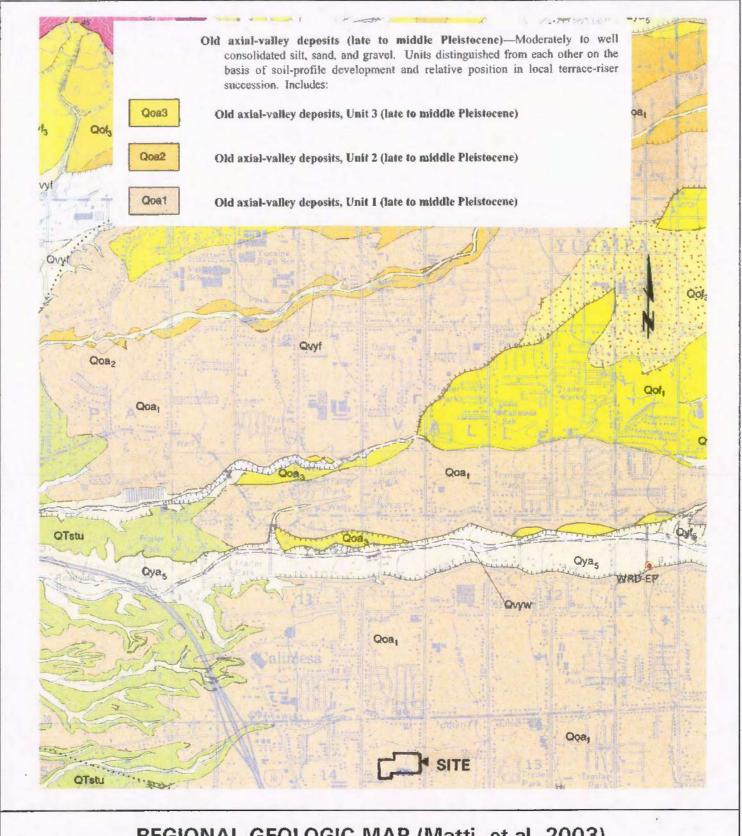
APPENDIX A

Index Map, Site Plan, Regional Geologic Map, and Historical Seismicity Maps

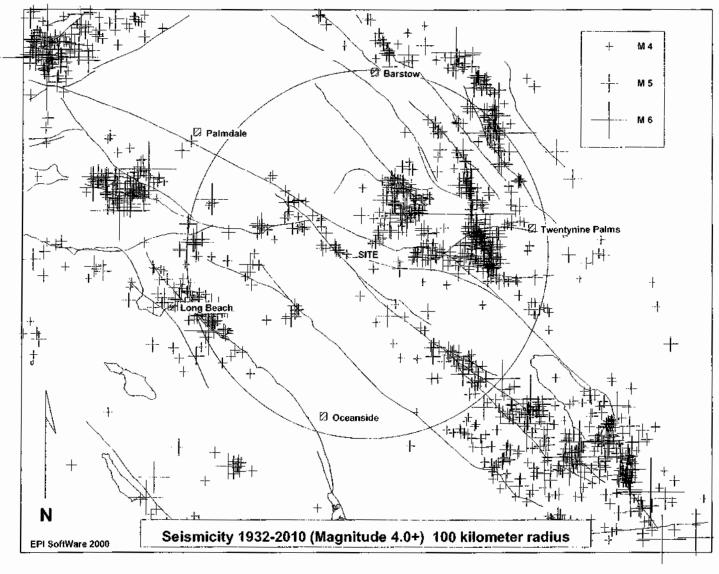


PROJECT: APN'S 411-150-012, 411-160-006 & A PORTION OF 411-160-032 PROJECT NO.: 33109.1 CLIENT: MBTK HOMES C/O THATCHER ENGINEERING INC. ENCLOSURE: A-1 LOR Geotechnical Group, Inc. DATE: SEPTEMBER 2014 SCALE: 1" = 2,000'





	REGIONAL GEOLOGIC IVIAP (IVIALLI, et al.,	20031		
PROJECT:	APN'S 411-150-012, 411-160-006 & A PORTION OF 411-160-032	PROJECT	NO.:	33109.1
CLIENT:	MBTK HOMES C/O THATCHER ENGINEERING INC.	ENCLOSU	RE:	A-3
LOD	Geotechnical Group, Inc.	DATE:	SEPTE	WBER 2014
LON	seotechnical Group, mc.	SCALE:		1" = 2,0001



SITE LOCATION: 34.0016 LAT. -117.0533 LONG.

MINIMUM LOCATION QUALITY: C

TOTAL # OF EVENTS ON PLOT: 1501

TOTAL # OF EVENTS WITHIN SEARCH RADIUS: 628

MAGNITUDE DISTRIBUTION OF SEARCH RADIUS EVENTS:

4.0- 4.9: 564 5.0- 5.9: 58 6.0- 6.9: 4 7.0- 7.9: 2 8.0- 8.9: 0

CLOSEST EVENT: 4.0 ON MONDAY, JUNE 27, 2005 LOCATED APPROX. 6 KILOMETERS NORTH OF THE SITE

LARGEST 5 EVENTS:

7.3 ON SUNDAY, JUNE 28, 1992 LOCATED APPROX. 60 KILOMETERS NORTHEAST OF THE SITE

7.1 ON SATURDAY, OCTOBER 16, 1999 LOCATED APPROX. 97 KILOMETERS NORTHEAST OF THE SITE

6.4 ON SATURDAY, MARCH 11, 1933 LOCATED APPROX. 96 KILOMETERS SOUTHWEST OF THE SITE

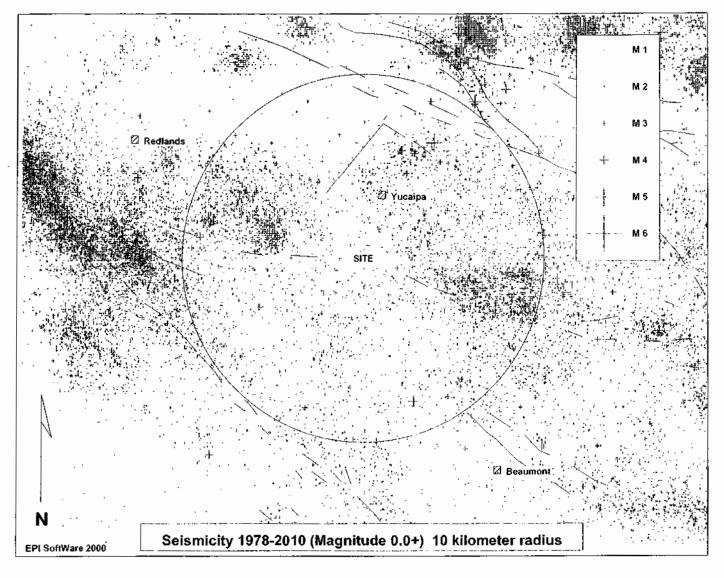
6.3 ON SUNDAY, JUNE 28, 1992 LOCATED APPROX. 30 KILOMETERS NORTHEAST OF THE SITE

6.1 ON THURSDAY, APRIL 23, 1992 LOCATED APPROX. 68 KILOMETERS EAST OF THE SITE

50

KILOMETERS

100



SITE LOCATION: 34.0016 LAT. -117.0533 LONG.

MINIMUM LOCATION QUALITY: A

TOTAL # OF EVENTS ON PLOT: 17647

TOTAL # OF EVENTS WITHIN SEARCH RADIUS: 4694

MAGNITUDE DISTRIBUTION OF SEARCH RADIUS EVENTS:

0.0- .9 : 611

1.0- 1.9: 3357

2.0- 2.9 : 678

3.0- 3.9 : 45 4.0- 4.9 : 3

5.0- 5.9: 0

6.0- 6.9 : 0

7.0-7.9:0

8.0-8.9:0

CLOSEST EVENT: 1.3 ON MONDAY, MARCH 26, 2001 LOCATED APPROX. .4 KILOMETER OF THE SITE

LARGEST 5 EVENTS:

- 4.9 ON THURSDAY, JUNE 16, 2005 LOCATED APPROX. 7 KILOMETERS NORTHEAST OF THE SITE
- 4.3 ON SATURDAY, JANUARY 16, 2010 LOCATED APPROX. 8 KILOMETERS SOUTH OF THE SITE
- 4.0 ON MONDAY, JUNE 27, 2005 LOCATED APPROX. 6 KILOMETERS NORTH OF THE SITE
- 3.7 ON THURSDAY, JUNE 16, 2005 LOCATED APPROX. 6 KILOMETERS NORTHEAST OF THE SITE 3.7 ON SATURDAY, MAY 13, 1995 LOCATED APPROX. 7 KILOMETERS SOUTHEAST OF THE SITE

Enclosure A-5

KILOMETERS

APPENDIX B

Field Investigation Program and Trench Logs

APPENDIX B FIELD INVESTIGATION

Subsurface Exploration

The site was investigated on September 3, 2014 and consisted of excavating 6 exploratory trenches to depths between 8 and 14 feet below the existing ground surface. The approximate locations of our trenches are shown on Enclosure A-2, within Appendix A.

The trenching exploration was conducted using a New Holland LB 75B backhoe with a 24-inch bucket. The soils encountered were continuously logged by an engineering geologist from this firm who visually observed the site, maintained detailed logs of the trenches, obtained disturbed soil samples for laboratory evaluation and testing, and classified the soils encountered by visual examination in accordance with the Unified Soil Classification System.

In-place density determinations were conducted at selected levels within the trenches utilizing the Nuclear Gauge Method (ASTM D 2922). Disturbed soil samples were obtained at soil changes and other selected levels within the trenches. The samples were placed in sealed containers for transport to our geotechnical laboratory.

All samples obtained were taken to our laboratory for storage and testing. Detailed logs of the trenches and boring are presented on the enclosed Trench Log, Enclosures B-1 through B-6. A Trench Log Legend and Soil Classification Chart are presented on Enclosures B-i and B-ii, respectively.

CONSISTENCY OF SOIL

SANDS

SPT BLOWS CONSISTENCY 0-4 Very Loose 4-10 Loose 10-30 Medium Dense 30-50 Dense Over 50 Very Dense

COHESIVE SOILS

SPT BLOWS	CONSISTENCY
0-2	Very Soft
2-4	Soft
4-8	Medium
8-15	Stiff
15-30	Very Stiff
30-60	Hard
Over 60	Very Hard

SAMPLE KEY

Symbol	Description
	INDICATES CALIFORNIA SPLIT SPOON SOIL SAMPLE
	INDICATES BULK SAMPLE
	INDICATES SAND CONE OR NUCLEAR DENSITY TEST
	INDICATES STANDARD PENETRATION TEST (SPT)

SOIL SAMPLE

TYPES OF LABORATORY TESTS

	e-i
1	Atterberg Limits
2	Consolidation
3	Direct Shear (undisturbed or remolded)
4	Expansion Index
5	Hydrometer
6	Organic Content
7	Proctor (4", 6", or Cal216)
8	R-value
9	Sand Equivalent
10	Sieve Analysis
11	Soluble Sulfate Content
12	Swell
13	Wash 200 Sieve

TRENCH LOG LEGEND

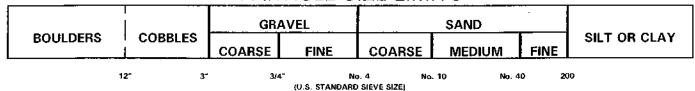
PROJECT:	APN'S 411-150-012, 411-160-006 & A PORTION OF 411-160-032	PROJECT NO.:	33109.1
CLIENT:	MBTK HOMES C/O THATCHER ENGINEERING INC.	ENCLOSURE:	B-i
LOR G	eotechnical Group, Inc.	DATE: SEPTEM	MBER 2014

SOIL CLASSIFICATION CHART

	A IOD DIVICE	ONC	SYMBOLS		TYPICAL
M.	AJOR DIVISI	ONS	GRAPH	LETTER	DESCRIPTIONS
	GRAVEL	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVELS SAND MIXTURES, LITTLE OR NO FINES
	AND GRAVELLY SOILS	(LITTLE OR NO FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
COARSE GRAINED SOILS	MORE THAN 50% OF COARSE	GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
	FRACTION RETAINED ON NO. 4 SIEVE	(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND	CLEAN SANDS		sw	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	AND SANDY SOILS	(LITTLE OR NO FINES)		SP	POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50%	SANDS WITH FINES		SM	SILTY SANDS, SAND - SILT MIXTURES
	FRACTION PASSING ON NO. 4 SIEVE	IAPPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
				ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
FINE GRAINED	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
SOILS				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS				МН	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
SMALLER THAN NO. 200 SIEVE SIZE		LIQUID LIMIT GREATER THAN 50		СН	INORGANIC CLAYS OF HIGH PLASTICITY
				ОН	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIC	GHLY ORGANIC S	SOILS		PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

PARTICLE SIZE LIMITS



SOIL CLASSIFICATION CHART

PROJECT:	APN'S 411-150-012, 411-160-006 & A PORTION OF 411-160-032	PROJEC	T NO.:	33109.1
CLIENT:	MBTK HOMES C/O THATCHER ENGINEERING INC.	ENCLOS	SURE:	B-ii
LOR G	eotechnical Group, Inc.	DATE:	SEPTEN	IBER 2014

TEST DATA									
DEPTH IN FEET	LABORATORY TESTS		ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	LOG OF TRENCH T-1 DESCRIPTION
0			88	4.9	110.5	8000 M		SM	(a) 0' ALLUVIUM: SILTY SAND, approximately 10% coarse grained sand, 20% medium grained sand, 35% fine grained sand, 40% silty to clayey fines, brown, damp, some pinhole porosity to 3/16" diameter, loose to medium dense, upper 0.5' disturbed. (a) 3' becomes less porous, dense.
5-			87	9.0	108.2	■			@ 7' contains minor gravel and trace of cobbles, non-porous. END OF TRENCH No fill No caving No groundwater No bedrock
15-	_								
		F otechn	ical and	Infiltrat					
LOR GEOTECHNICAL GROUP INC. EQU							DATE EXCAVATED: September 3, 2014		

, [TE	ST D	ATA				
DEPTH IN FEET	LABORATORY TESTS		ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	LOG OF TRENCH T-2 DESCRIPTION
0	3, 4, 7, 9, 10, 11		79	4.4	106.6			SM	@ 0' ALLUVIUM: SILTY SAND, approximately 10% coarse grained sand, 20% medium grained sand, 30% fine grained sand, 40% silty to clayey fines, brown, damp, porous, loose to medium dense, upper 0.5' disturbed, decrease in porosity and increase in density with increasing depth.
5			87	5.4	116.7				@ 4' becomes only slightly porous, slightly finer grained, dense, brown to reddish-brown.
10									(a) 8' becomes sandier, yellowish-brown.
15									END OF TRENCH No fill No caving No groundwater No bedrock
	ROJEC CLIENT		ical and	Infiltra	•••	sibility I BTK H			
]		R ge	OTE	CHNI	CAL				

:

		 TE	ST D	ATA				
DEPTH IN FEET	LABORATORY TESTS	ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	LOG OF TRENCH T-3
0-	1		~				SM	DESCRIPTION @ 0' ALLUVIUM: SILTY SAND, approximately 5% coarse grained sand, 20% medium grained sand, 30% fine grained sand, 45% silty, brown, damp, porous, loose to medium dense, upper 0.5' disturbed.
5-		80	4,9	107.8	No. No.			@ 3' includes trace to minor amounts of gravel to 3", less porous.
3		84	8.3	112.5				@ 8' becomes yellowish-brown, sandier.
10-								
15-								END OF TRENCH No fill No caving No groundwater No bedrock
	ROJEC LIENT	ical and	Infiltra		sibility I BTK H			
		OTE	CHN		DATE EXCAVATED: September 3, 2014			

_			TE	ST D	ATA							
DEPTH IN FEET	LABORATORY TESTS		ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	LOG OF TRENCH T-4 DESCRIPTION			
8	5, 9 , 10, 1		83	5.1	103.7	1000 1000 1000 1000 1000 1000 1000 100		SM	(a: 0! ALLUVIUM: SILTY SAND, approximately 5% coarse grained sand, 20% medium grained sand, 30% fine grained sand, 45% silty, brown, moist, slightly to moderately porous, loose to medium dense.			
5	•		64	7.0	1000	₩			(a: 5.5' becomes reddish-brown, sandier, non to slighlty porous. (a: 9' becomes sandier overal but contains occassional thin siltier			
10									layers.			
END OF TRENCH No fill No caving No groundwater No bedrock												
_			ical and	Infiltra								
Г	CLIENT: MBTK Homes, LLC ELEVATION: 2450 DATE EXCAVATED: September 3, 2014 EQUIPMENT: New Holland LB 555 BUCKET W.: 24" ENCLOSURE: B-4											

:

[TE	ST D	ATA								
DEPTH IN FEET	LABORATORY TESTS		MOISTURE CONTENT	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	LOG OF TRENCH T-5 DESCRIPTION					
	4, 7, 11		93	6.8	116.7	XX		SM	@ 0' ALLUVIUM: SILTY SAND, approximately 5% coarse grained sand, 15% medium grained sand, 40% fine grained sand, 40% silty to clayey fines, brown to reddish-brown, damp, slightly to moderately porous, loose to medium dense.				
5-			89	9.5	111.6	**************************************			(a) 6' becomes yellowish-brown, finer grained, approximately 5% coarse grained sand, 20% medium grained sand, 40% fine grained sand, 35% silty fines.				
10-									@ 10' becomes siltier, approximately 45%.				
15-	No 60												
			ical and	Infiltra									
-	LO]		ОТЕ	CHNI		втк н GRO			DATE EXCAVATED: September 3, 2014				

			ΤĒ	ST D	ATA								
DEPTH IN FEET	LABORATORY TESTS		ESTIMATED COMPACTION (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	SAMPLE TYPE	LITHOLOGY	U.S.C.S.	LOG OF TRENCH T-6				
0			81	6.6	101.5			SM	@ 0' ALLUVIUM: SILTY SAND, approximately 5% coarse grained sand, 20% medium grained sand, 35% fine grained sand, 40% silty, brown, moist, pinhole to 3/16" porosity, loose to medium dense.				
			89	5.6	110.9	8			@ 4' increase in density, less porous.				
5-									@ 6' becomes yellowish-brown, generally sandier but with occassional silty layers.				
10-													
15-													
			ical and	Infiltra		sibility I BTK H							
	LO]		OTE	CHNI			DATE EXCAVATED: September 3, 2014						

APPENDIX C Laboratory Testing Program and Results

APPENDIX C LABORATORY TESTING

<u>General</u>

Selected soil samples obtained from our trenches were tested in our geotechnical laboratory to evaluate the physical properties of the soils affecting foundation design and construction procedures. The laboratory testing program performed in conjunction with our investigation included moisture content, dry density, laboratory compaction, direct shear, sieve analysis, sand equivalent, R-value, expansion index, and soluble sulfate content. Descriptions of the laboratory tests are presented in the following paragraphs:

Moisture Density Tests

The moisture content and dry density information provides an indirect measure of soil consistency for each stratum, and can also provide a correlation between soils on this site. The dry unit weight and field moisture content were determined for selected undisturbed samples, in accordance with ASTM D 2922 and ASTM D 2216, respectively, and the results are shown on the Trench Logs, Enclosures B-1 through B-6 for convenient correlation with the soil profile.

Laboratory Compaction

Selected soil samples were tested in the laboratory to determine compaction characteristics using the ASTM D 1557 compaction test method. The results are presented in the following table:

	LABORATORY COMPACTION											
Trench Number	Sample Depth (feet)	Soil Description (U.S.G.S.)	Maximum Dry Density (pcf)	Optimum Moisture Content (percent)								
T-2	1-4	(SM) Silty Sand	134.5	8.5								
T-5	3-5	(SM) Silty Sand	125.0	10.0								

Direct Shear Tests

Shear tests are performed with a direct shear machine in general accordance with ASTM D 3080 at a constant rate-of-strain (usually 0.04 inches/minute). The machine is designed to test a sample partially extruded from a sample ring in single shear. Samples are tested at varying normal loads in order to evaluate the shear strength parameters, angle of internal friction and cohesion. Samples are tested in a remolded condition (90 percent relative compaction per ASTM D 1557) and soaked, to represented the worse case conditions expected in the field.

The results of the shear tests are presented in the following table:

		DIRECT SHEAR TESTS		
Trench Number	Sample Depth (feet)	Soil Description (U.S.G.S.)	Angle of Internal Friction (degrees)	Apparent Cohesion (psf)
T -2	1-4	(SM) Silty Sand	28	500

Sieve Analysis

A quantitative determination of the grain size distribution was performed for selected samples in accordance with the ASTM D 422 laboratory test procedure. The determination is performed by passing the soil through a series of sieves, and recording the weights of retained particles on each screen. The results of the sieve analyses are presented graphically on Enclosure C-1.

Sand Equivalent

The sand equivalent of selected soils were evaluated using the California Sand Equivalent Test Method, Caltrans Number 217. The results of the sand equivalent tests are presented with the grain size distribution analyses on Enclosure C-1.

R-Value Test

Soil samples were obtained at probable pavement subgrade level and sieve analysis and sand equivalent tests were conducted. Based on these indicator tests, a selected soil sample was tested to determine its R-value using the California R-Value Test Method, Caltrans Number 301. The results of the sieve analysis, sand equivalent, and R-value tests are presented on Enclosure C-1.

Expansion Index Tests

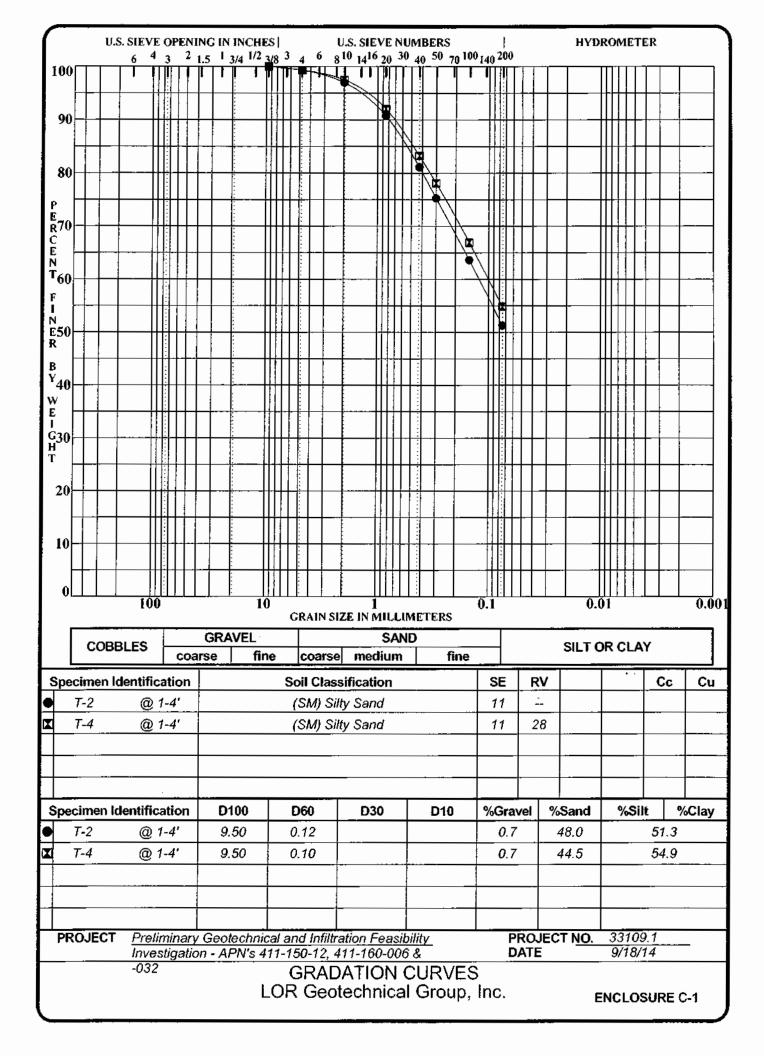
Remolded samples are tested to determine their expansion potential in accordance with the Expansion Index (EI) test. The test is performed in accordance with the Uniform Building Code Standard 18-2. The test results are presented in the following table:

		EXPANSION INDEX TEST	\$	
Trench Number	Sample Depth (feet)	Soil Description (U.S.C.S.)	Expansion Index (EI)	Expansion Potential
T-2	1-4	(SM) Silty Sand	3	Very Low
T-5	3-5	(SM) Silty Sand	12	Very Low

Soluble Sulfate Content Tests

The soluble sulfate content of selected subgrade soils were evaluated. The concentration of soluble sulfates in the soils was determined by measuring the optical density of a barium sulfate precipitate. The precipitate results from a reaction of barium chloride with water extractions from the soil samples. The measured optical density is correlated with readings on precipitates of known sulfate concentrations. The test results are presented on the following table:

	SOLUBLE SULFATE CONTENT TESTS										
Trench Number	Sample Depth (feet)	Soil Description (U.S.G.S.)	Sulfate Content (percent by weight)								
T-2	1-4	(SM) Silty Sand	< 0.005								
T-4	1-4	(SM) Silty Sand	< 0.005								
T-5	3-5	(SM) Silty Sand	< 0.005								



APPENDIX D

Infiltration Test Results

DOUBLE RING INFILTROMETER TEST DATA

Project:	APN's 411-150-012, 411-160-006 and a portion of 411-160-032	Part Date:	September 3, 2014	
Project No.:	33109.1	Test Hole No.:	DRI-1	
Soil Classification:	(SM) Silty Sand	Test Hole Diameter:	12-in inner	24-in annulai
Depth of Test Hole:	8 ft	— Date Excavated:	September 3, 2014	
Liquid Used:	Tap Water	— pH:	7.8	
Area of Rings:	Inner = 0.785 ft^2 Annular = 2.36 ft	² Depth of Water in Rings:	3"	
Tested By:	JRM	Ring Penetration:	3"	
Liquid Level Maintained Using:	Vacuum Seal			
Depth to Water Table:	150+ ft			

	TEST PERIOD													
TOTAL NO			INNER			WATER USED (lbs.)		WATER USED (gal)		ΓΙΟΝ RATE f./day)	INFILTRATIO	N RATE (in/hr)		
TRIAL NO.	O. TIME		TIME INTERVAL (minutes)	TOTAL ELASPED TIME (minutes)	inner	annular space	inner	annular space	inner	annular space	inner	annular space	REMARKS	
	S	9:52								,				
1	E	11:02	70	70	5.59	11.20	0.67	1.34	17.6	11.7	1.2	0.8		
	S	11:02												
2	Е	12:01	59	129	4.14	8.40	0.50	1.01	15.5	10.4	1.0	0.7		
3	S	12:07			-									
٠ -	E	1:07	60	189	2.00	5.17	0.24	0.62	7.3	6.3	0.5	0.4		
1	S	1:07							=					
4	E	2:21	74	263	4,86	9.87	0.58	1.18	14.5	9.8	1.0	0.7		
	S	2:21												
5	E	3:05	46	309	1.87	3.79	0.22	0.45	9.0	6.0	0.6	0.4		

		1 1 1 1 1		,		Т	EST PERIOD		LIBURA				
TRIAL NO			INNER		WATER USED (lbs.)		WATER USED (gal)		INFILTRATION RATE (gal/sf./day)		INFILTRATION RATE (in/hr)		DEMARKS
TRIAL NO.	TIME		TIME INTERVAL (minutes)	TOTAL ELASPED TIME (minutes)	inner	annular space	inner	annular space	inner	annular space	inner	annular space	REMARKS
6	S E	3:05 3:55	50	359	1.09	2.22	0.13	0.27	4.8	3.3	0.3	0.2	

DOUBLE RING INFILTROMETER TEST DATA

Project: APN's 411-150-012, 411-160-006 and a portion of 411-160-032 Test Date: September 3, 2014 Project No.: 33109.1 Test Hole No.: DRI-2 (SM) Silty Sand Test Hole Diameter: Soil Classification: 12-in inner 24-in annular Depth of Test Hole: Date Excavated: September 3, 2014 5 ft Liquid Used: Tap Water 7.8 pH: Area of Rings: Inner = 0.785 ft^2 Annular = 2.36 ft^2 Depth of Water in Rings: 3" 3" Tested By: JRM Ring Penetration: Liquid Level Maintained Using: Vacuum Seal Depth to Water Table: 150 + ft

	TEST PERIOD *													
TRIAL NO.			INNER		WATER USED (lbs.)		WATER USED (gal)		INFILTRATION RATE (gal/sf./day)		INFILTRATION RATE (in/hr)		DEMARKO.	
TRIAL NO.	TIME		TIME INTERVAL (minutes)	TOTAL ELASPED TIME (minutes)	inner	annular space	inner	annular space	inner	annular space	ínner	annular space	REMARKS	
	S	10:37												
	E	11:27	50	50	3.23	6.57	0.39	0.79	14.2	9.6	1.0	0.7		
	S	11:27												
2	Е	12:10	43	93	3.14	6.38	0.38	0.77	16.1	10.9	1.0	0.7		
	S	12:10												
3	E	1:11	61	154	3.85	7.82	0.46	0.94	13.9	9.4	0.9	0.6		
	S	1:11												
4	E	2:11	60	214	2.19	4.43	0.26	0.53	8.0	5.4	0.5	0.4		
	S	2:19			****									
5	E	3:00	41	255	1.54	3.11	0.18	0.37	8.3	5.6	0.6	0.4		

	TEST PERIOD												
TRIAL NO.			INNER		WATER USED (lbs.)		WATER USED (gal)		INFILTRATION RATE (gal/sf./day)		INFILTRATION RATE (in/hr)		REMARKS
TRIAL NO.	TIME		TIME INTERVAL (minutes)	TOTAL ELASPED TIME (minutes)	inner	annular space	inner	annular space	inner	annular space	ínner	annular space	MEMARIKO
6	S	3:00	97	352	1.80	3.66	0.22	0.44	4.1	2.8	0.3	0.2	
	E	4:37	37	332	1.00	0.00	0.22	1 1				0.2	

May 19, 2025

Land Engineering Consultants, Inc. P.O. Box 541
Calimesa, California 92320

Project No. 33109.14

Attention: Mr. Ryan Ritchey

Subject: Precise Grading Plan Review, Proposed County Line Recharge Basin, APNs

411-150-027, Calimesa, California.

At your request, we have prepared this letter containing our conclusions and recommendations for the proposed recharge basin improvements (LEC, 2025). This letter is intended to provide specific geotechnical conclusions and recommendations for the proposed recharge basin based on data from previous geotechnical studies conducted at the site. These conclusions and recommendations specifically address the geotechnical aspects of the project as they pertain to the now proposed recharge basin.

Grading of the proposed recharge basis system will consist mainly of excavation to attain the desired basin elevations. Minor filling for berms associated with the basins are anticipated. Prior to placement of the berm fill, all undocumented fill material and any loose alluvial materials should be removed. The data developed during previous investigations (LOR, 2014; LOR, 2016; LOR, 2022; and LOR, 2023) indicates that removals on the order of approximately 3 to 5 feet will be required within the fill berm areas. The given removal depths are preliminary, the actual depths of removal should be determined during the grading operation by observation and in-place density testing.

Very low expansion potential generally characterizes the onsite soil materials testing.

LOR Geotechnical Group, Inc.

GEOTECHNICAL CONSIDERATIONS

Based on the precise grading plan provided, (LEC, 2025), and the various geotechnical studies (LOR, 2014; LOR, 2016; LOR, 2022; and LOR, 2023), we have prepared the following conclusions and recommendations for final design and construction of the proposed recharge basin system.

The proposed recharge basin consists of a large infiltration basin approximately 12 feet in depth. This basin is separated by an approximate 120-foot-wide berm between a smaller control basin. This overflow berm will include a 24-inch RCP (reinforced concrete pipe) between the main and control basin as well as a concrete spillway. The control basin will retain up to five feet of water, and is at a one-foot lower bottom elevation than the main basin. The main basin will hold up to ten feet of water. The deeper portion of the main basin and the control basin will be excavated into native materials. Varying amounts of fill are proposed to complete the upper portion of the berms surrounding the basins. All slopes associated with berms are shown to be constructed at 3 horizontal to 1 vertical inclinations.

The previous infiltration testing conducted at this site indicated a low permeability of the native materials (LOR, 2014; and LOR, 2022). To ensure that the upper fill portions of the berms maintain this low permeability, it is our recommendation that all fills associated with berms be placed as engineered compacted fill at a minimum relative compaction of 95 percent (ASTM D 1557).

To ensure that there is no significant seepage along the 24-inch drain pipe, standard collars are recommended.

It is imperative that no clearing and/or grading operations be performed without the presence of a qualified geotechnical engineer. An on-site pre-job meeting with the owner's representatives, the contractor and the geotechnical engineer should occur prior to all grading related operations. Operations undertaken at the site without the geotechnical engineer present may result in the exclusion of affected areas from the final compaction report for the project.

Grading of the subject site should be performed in accordance with the following recommendations, as well as applicable portions of the California Building Code, and/or applicable local ordinances.

All areas to be graded should be stripped of significant vegetation and other deleterious materials.

All undocumented fills encountered during grading should be completely removed and cleaned of significant deleterious materials. These may then be reused as compacted fill. Such fill materials are anticipated to be present locally within the southeast and southwest corners of the site.

All existing topsoil, any undocumented fills, and all loose alluvial materials should be removed from areas to receive fill. The data developed during previous investigations at the site indicate that removals on the order of 3 to 5 feet will be required to encounter competent alluvium. Competent alluvium is defined as, relatively dense material with a minimum in place relative compaction of 85 percent (ASTM D 1557). Again, removals should be conducted within all berm areas.

After the removal of loose, unsuitable portions of the topsoil, undocumented fills, and alluvial materials as described above and prior to placing fill, the surfaces of all areas to receive fill should be scarified to a depth of at least 6 inches. This scarified soil should be brought to a near optimum moisture content and compacted to a relative compaction of at least 95 percent (ASTM D 1557).

The on-site soils should provide adequate quality fill material, provided they are free from organic matter and other deleterious materials. Unless approved by the geotechnical engineer and/or design engineer, rocks or similar irreducible material with a maximum dimension greater than three inches should not be buried or placed in fills.

Import fills should not be considered for this project. Fills should be spread in maximum 8-inch uniform, loose lifts, with each lift brought to a near optimum moisture content prior to, during, and/or after placement, and all compacted to a relative compaction of at least 95 percent in accordance with ASTM D 1557.

All berm areas constructed at a 3 horizontal to 1 vertical inclination should be considered grossly stable. At this inclination, rapid draw-down slope stability calculations are not required.

To provide adequate support for any concrete flatwork and pavement areas, subgrade soils should be compacted to 95 percent relative compaction in accordance with ASTM D 1557.

Since the native materials are considered to have a very low expansion potential, no particular geotechnical and/or structural mitigation measures to counteract expansion soil problems will be required. Additional verification of the expansion soil characteristics should be conducted during the grading operation.

Based on previous R-Value testing conducted at the site during the referenced soils studies, a pavement section of 0.25 feet of asphalt concrete over 0.45 feet of aggregate base should be appropriate for access roadways subjected to light vehicular traffic and incidental truck access. This pavement design is based upon results of previous preliminary sampling and testing, and should be verified by additional sampling and testing when the actual sub-grade soils are exposed.

This structural section is predicated on a 95 percent relative compaction (ASTM D 1557) of the upper 12 inches of the pavement sub-grade soils and aggregate base utilized. In addition, the aggregate base should meet Cal Trans specifications for Class 2 aggregate base.

This review letter has been prepared utilizing the referenced documents. These documents are to be considered part of this letter, as they were relied upon for its content. Additional data necessary for design or construction of the subject project should be sought from these documents.

CLOSURE

It has been a pleasure to provide you with this review and recommendation letter. We look forward to being of further assistance as construction begins. Should conditions be encountered during construction that appear to be different than indicated in the referenced documents as well as within this letter, please contact this office immediately in order that we might evaluate their effect.

Should you have any questions regarding this letter, please do not hesitate to contact us at your convenience.

NO. 2030

Respectfully submitted,

LOR Geotechnical Group, Inc.

John P. Leuer, GE 2030

President

AAT:JPL:ss

Distribution: Addressee via email ryan@lecincorporated.com

REFERENCES

Land Engineering Consultants, Inc., 2025, San Gorgonio Pass Water Agency, Precise Grading Plan, County Line Recharge Basin, APN 411-150-027, 8 Sheets, stamp dated February 6, 2025.

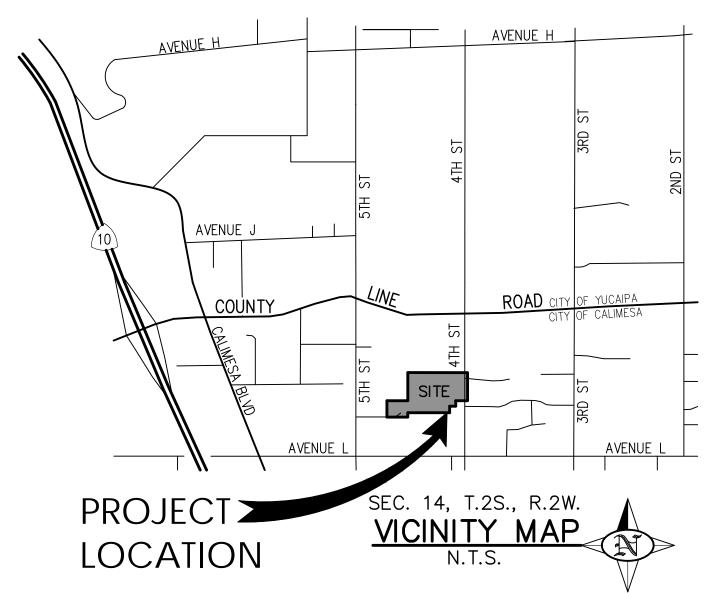
LOR Geotechnical Group, Inc., 2014, Preliminary Geotechnical Investigation and Infiltration Feasibility Investigation, APN's 411-150-012, 411-160-006, and a Portion of 411-160-032, SWC of 4th Street and Robertson Circle, Calimesa, California, Project No. 33109.1, dated September 23, 2014.

LOR Geotechnical Group, Inc., 2016, Preliminary Geotechnical Investigation Update, APN'S 411-150-012, 411-160-006, and a Portion of 411-160-032, SWC 4th Street and Robertson Circle, Calimesa, California, Project No. 33109.12, dated February 3, 2016.

LOR Geotechnical Group, Inc., 2022, Infiltration/Percolation Feasibility Investigation, Proposed Recharge Basin, APN 411-150-027, Calimesa, California, Project No. 33109.4, dated February 21, 2022.

LOR Geotechnical Group, Inc., 2023, Preliminary Geotechnical Investigation, Proposed Reservoir No. 3A, APN 411-150-027, Parcel B, Calimesa, California, Project No. 33109.13, dated June 1, 2023.

APPENDIX C CONTRACT DRAWINGS



GRADING GENERAL NOTES:

- ANY MODIFICATIONS OF OR CHANGES TO THE APPROVED GRADING PLANS SHALL BE APPROVED BY THE SAN GORGONIO PASS WATER AGENCY (SGPWA)
- 2. A COPY OF THE NOTICE TO PROCEED AND APPROVED GRADING PLAN MUST BE IN THE POSSESSION OF THE OWNER OR HIS REPRESENTATIVE, AND BE MADE AVAILABLE AT THE PROJECT SITE.
- 3. DESIGN ENGINEER MUST SET GRADE STAKES, AND FURNISH CUT SHEETS TO THE INSPECTOR PRIOR TO POURING, FOR ALL DRAINAGE DEVICES, AND OBTAIN INSPECTION BEFORE POURING.
- 4. PROVISIONS (TEMP. SEDIMENT BASINS), SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
- SEPARATE PLANS FOR TEMPORARY DRAINAGE AND EROSION CONTROL MEASURES TO BE USED DURING THE RAINY SEASON MUST BE SUBMITTED TO THE SGPWA BEFORE OCTOBER 1. THE EROSION CONTROL DEVICES SHOWN ON SAID PLANS MUST BE INSTALLED BY NOT LATER THAN NOVEMBER 1 AND MAINTAINED IN OPERABLE CONDITION UNTIL APRIL 15.
- THE GRADING CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT VERIFYING THAT THE WORK DONE UNDER HIS DIRECTION WAS PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND REQUIREMENTS OF CHAPTER 70 OF THE UNIFORM BUILDING CODE. OR, DESCRIBING ALL VARIANCES FROM THE APPROVED PLANS AND REQUIREMENTS OF THE CODE.
- THE DESIGN ENGINEER VERIFIES THAT THIS GRADING PLAN WAS PREPARED UNDER MY SUPERVISION. ALL SOILS ENGINEER AND ENGINEERING GEOLOGY RECOMMENDATIONS WERE INCORPORATED IN PLAN.

STÉVEN H. RITCHEY 🖊 R.C.E. 51129

- 8. ALL RECOMMENDATIONS INCLUDED IN THE SOILS AND GEOLOGY REPORTS SHALL BE COMPLIED WITH.
- 9. GRADING SHALL NOT BE STARTED WITHOUT FIRST NOTIFYING THE INSPECTOR. A PRE-GRADING MEETING ON THE SITE IS REQUIRED BEFORE START OF GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOIL ENGINEER, GEOLOGIST, INSPECTOR, AND WHEN REQUIRED THE ARCHEOLOGIST AND PALEONTOLOGIST. THE REQUIRED INSPECTIONS FOR GRADING WILL BE EXPLAINED AT THIS MEETING.
- 10. FILL SHALL BE BENCHED INTO COMPETENT MATERIAL PER THE SOILS ENGINEER'S RECOMMENDATIONS.
- 11. STOCK PILING OF EXCESS MATERIAL SHALL BE APPROVED BY THE INSPECTOR PRIOR TO EXCAVATION.
- 12. ALL TRENCH BACKFILLS SHALL BE OBSERVED AND TESTED BY THE SOILS ENGINEER.
- 13. THE ENGINEERING GEOLOGIST AND THE SOILS ENGINEER SHALL, AFTER CLEARING, AND PRIOR TO PLACEMENT OF FILLS IN CANYONS, OBSERVE EACH CANYON FOR ADVERSE STABILITY AND TO DETERMINE THE PRESENCE OR ABSENCE OF SUBSURFACE WATER OR SPRING FLOW. IF NEEDED, SUB-DRAINS WILL BE DESIGNED AND CONSTRUCTED AT THE DIRECTION OF THE ENGINEERING GEOLOGIST & SOILS ENGINEER, AND APPROVED BY THE INSPECTOR, PRIOR TO PLACEMENT OF FILL IN CANYON.
- 14. SUB-DRAIN OUTLETS SHALL BE COMPLETED AT THE BEGINNING OF THE SUB-DRAIN CONSTRUCTION AND SURVEY FOR LOCATION. THE AS-GRADED PLAN SHALL SHOW ALL SUB-DRAIN LOCATIONS AND ELEVATIONS.
- 15. ALL CUT SLOPES SHALL BE INVESTIGATED BOTH DURING AND AFTER GRADING BY THE ENGINEERING GEOLOGIST TO DETERMINE IF ANY SLOPE STABILITY PROBLEM EXISTS. SHOULD EXCAVATION DISCLOSE AND GEOLOGICAL HAZARDS OR POTENTIAL GEOLOGIC HAZARDS, THE ENGINEERING GEOLOGIST SHALL SUBMIT RECOMMENDED REMEDIATION TO THE INSPECTOR FOR APPROVAL.
- 16. WHERE SUPPORT OR BUTTRESSING OF CUT AND NATURAL SLOPES IS DETERMINED TO BE NECESSARY BY THE ENGINEERING GEOLOGIST AND GEOTECHNICAL ENGINEER, THE GEOTECHNICAL ENGINEER SHALL SUBMIT DESIGN, LOCATIONS AND CALCULATIONS TO THE INSPECTOR PRIOR TO CONSTRUCTION. THE ENGINEERING GEOLOGIST AND GEOTECHNICAL ENGINEER SHALL PROVIDE OBSERVATION AND TESTING DURING CONSTRUCTION VERIFYING THAT THE WORK WITHIN THEIR AREA
- 17. WHERE CUT PADS ARE BROUGHT TO NEAR GRADE, THE ENGINEERING GEOLOGIST SHALL DETERMINE IF THE BEDROCK IS EXTENSIVELY FRACTURED OR FAULTED AND WILL READILY TRANSMIT WATER. IF CONSIDERED NECESSARY BY THE ENGINEERING GEOLOGIST AND SOILS ENGINEER, A COMPACTED BLANKET WILL

OF RESPONSIBILITY IS IN CONFORMANCE WITH THE REPORTS.

- 18. THE COMPACTION REPORT AND APPROVAL FROM THE SOILS ENGINEER SHALL INDICATE THE TYPE OF FIELD TESTING PERFORMED. EACH TEST SHALL BE IDENTIFIED WITH THE METHOD OF OBTAINING THE IN-PLACE DENSITY, WHETHER SAND CONE OR NUCLEAR GAUGE, AND SHALL BE SO NOTED FOR EACH TEST.
- 19. THE ENGINEER SHALL SUBMIT A LETTER OF CERTIFICATION TO THE BUILDING OFFICIAL STATING THAT THE GRADING WAS DONE IN COMPLIANCE WITH THE APPROVED GRADING PLAN.
- 20. PRELIMINARY SOILS AND GEOLOGY REPORTS AND ALL SUBSEQUENT REPORTS ARE CONSIDERED A PART OF THE APPROVED GRADING PLAN. ALL RECOMMENDATIONS CONTAINED ARE TO BE COMPLIED WITH OR REVISIONS
- 21. ANY EXCAVATIONS ADJACENT TO OTHER PROPERTY OR STRUCTURES ARE SUBJECT TO THE PROVISIONS OF CALIFORNIA CODE, SECTION 832, AND IS THE RESPONSIBILITY OF THE PERMITTEE AND/OR OWNER.
- 22. ALL CUT AND FILL SLOPES WILL BE PLANTED WITH AN APPROVED GROUND COVER AND PROVIDED WITH AN IRRIGATION SYSTEM AS SOON AS PRACTICAL AFTER ROUGH GRADING. IN ADDITION TO THE GROUND COVER PLANTS, SHRUBS SPACED AT 10 FEET ON CENTERS BOTH WAYS. OR TREES SPACED AT 20 FEET CENTER BOTH WAYS, OR AN EQUIVALENT COMBINATION THEREOF, SHALL BE INSTALLED ON ALL SLOPES EXCEEDING 15 FEET IN VERTICAL FEET.
- 23. THE PLANS FOR A DESIGNED IRRIGATION SYSTEM FOR FULL COVERAGE OF ALL PORTIONS OF THE SLOPES SHALL BE SUBMITTED AND APPROVED PRIOR TO ROUGH GRADING APPROVAL BY THE INSPECTOR. (HOSE BIBS MAY BE USED SO THE SLOPES CAN BE WATERED WITH A 50 FOOT HOSE: SPRINKLERS ARE REQUIRED FOR HIGHER SLOPES)
- 24. PLANTING AND IRRIGATION PLANS FOR SLOPES GREATER THAN 20 FEET IN HEIGHT MUST BE PREPARED AND SIGNED BY A CIVIL ENGINEER OR LANDSCAPE
- 25. FINISH GRADING WILL BE COMPLETED AND APPROVED AND SLOPE PLANTING AND IRRIGATION SYSTEMS INSTALLED BEFORE OCCUPANCY OF BUILDINGS.

TITLE SHEET.	SHEET 1
PRECISE GRADING PLAN	SHEET 2
PRECISE GRADING AND SECTION SHEET	SHEET 3
PRECISE GRADING AND DETAIL SHEET.	SHEET 4
WALL & FENCE DETAIL SHEET	SHEET 5
EROSION CONTROL PLAN.	SHEET 6
EROSION CONTROL AND DETAIL SHEET.	SHEET 7

GENERAL NOTES FOR EROSION CONTROL PLANS

- 1. IN THE CASE OF EMERGENCY, CALL EMMETT CAMPBELL AT WORK PHONE
- 2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
- 3. EROSION CONTROL DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE SGPWA.
- 4. ALL REMOVABLE EROSION PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY RAIN PROBABILITY
- STREETS, CHECK BERMS AND BASINS.
- 6. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING
- 7. THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
- 8. THE PERMITTEE AND CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND INSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.
- 9. ANY SLOPES WITH DISTURBED SOILS OR DENUDED VEGETATION MUST BE STABILIZED TO INHIBIT EROSION BY WIND AND WATER.
- 10. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
- 11. CONSTRUCTION SITES SHALL BE MAINTAINED BY IMPLEMENTATION OF BEST MANAGEMENT PRACTICES (BMP) IN SUCH A MANNER THAT POLLUTANTS ARE NOT DISCHARGED FROM THE SITE TO THE MAXIMUM EXTENT PRACTICABLE.
- 12. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW,
- SWALES, AREA DRAINS, NATURAL DRAINAGE OR WIND. 13. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY
- IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
- 15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
- 16. ALL NON-STORMWATER DISCHARGES, UNLESS ACCEPTED OR AUTHORIZED BY AN NPDES PERMIT, REQUIRE PRIOR APPROVAL BY THE STATE WATER RESOURCES CONTROL BOARD.
- 17. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.

SEWER:

INDEX OF SHEETS

TITLE SHEET.	. SHEET 1
PRECISE GRADING PLAN	. SHEET 2
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EROSION CONTROL AND DETAIL SHEET.	SHEET 7

- NUMBER (951) 845-2577 OR MOBILE PHONE NUMBER (760) 553-6478.

- 5. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM
- DAY. DRAINAGE IS TO BE DIRECTED TOWARD DESILTING FACILITIES.

- THE FORCES OF WIND AND WATER. 14. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED

OWNER:

SAN GORGONIO PASS WATER AGENCY 1210 BEAUMONT AVE. BEAUMONT, CA 92223 PH: (951) 845-2577 LECKHART@SGPWA.COM

ENGINEER/SURVEYOR:

LAND ENGINEERING CONSULTANTS, INC. P.O. BOX 541, 650 AVENUE K CALIMESA. CA. 92320 PH: (909) 795-8882 STEVE@LECINCORPORATED.COM

SOILS ENGINEER:

LOR GEOTECHNICAL GROUP, INC. 6121 QUAIL VALLEY COURT RIVERSIDE, CA. 92507 PH: (909) 653-1760 JLEUER@LORGEO.COM

SEC. 14, T.2S., R.2W. SURVEY MONUMENT NOTE

SEE SHEET 2 / 6

ENGINEERED GRADING REQUIREMENTS:

SEE SHEET 3 /

1. FILL SHALL BE COMPACTED TO NOT LESS THAN 90% OF MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D1557 - LATEST VERSION. [7016.1]

SAN GORGONIO PASS WATER AGENCY

PRECISE GRADING PLAN

COUNTY LINE RECHARGE BASIN

APN 411-150-027

SGPWA

RECHARGE BASIN

- 2. FIELD DENSITY SHALL BE DETERMINED BY SAND-CONE METHOD, A.S.T.M. D1556 LATEST VERSION. IN FINE-GRAINED COHESIVE SOILS FIELD DENSITY MAY BE DETERMINED BY THE DRIVE-CYLINDER METHOD, A.S.T.M. D-2937 - LATEST VERSION, PROVIDED NOT LESS THAN 20% OF THE REQUIRED DENSITY TESTS, UNIFORMLY DISTRIBUTED, ARE BY THE SAND-CONE METHOD. THE METHOD OF DETERMINING FIELD DENSITY SHALL BE SHOWN IN THE COMPACTION REPORT. OTHER METHODS MAY BE USED IF RECOMMENDED BY THE SOILS ENGINEER AND APPROVED IN A ADVANCE BY SGPWA.
- 3. SUFFICIENT TESTS OF SOIL PROPERTIES, INCLUDING SOIL TYPES AND SHEAR STRENGTH, SHALL BE MADE DURING GRADING OPERATIONS TO VERIFY COMPLIANCE WITH DESIGN CRITERIA. THE RESULTS OF SUCH TESTING SHALL BE FURNISHED TO SGPWA UPON COMPLETION OF GRADING OPERATIONS, OR WHEN NECESSITATED BY FIELD CONDITIONS. ONE FIELD DENSITY TEST TO BE MADE AS FOLLOWS:
- A. ONE TEST FOR EACH TWO FOOT VERTICAL LIFT.
- B. ONE TEST FOR EACH 1,000 CUBIC YARDS OF MATERIAL PLACED.
- C. ONE TEST WILL BE MADE AT A POINT APPROXIMATELY ONE FOOT BELOW THE FILL SLOPE SURFACE ON THE BASIS OF ONE TEST FOR EACH 1,000 SQUARE FEET OF SLOPE SURFACE BUT NOT LESS THAN ONE TEST FOR EACH 10 FOOT OF VERTICAL SLOPE HEIGHT
- 4. NO FILL SHALL BE PLACED UNTIL STRIPPING OF VEGETATION, REMOVAL OF UNSUITABLE SOILS, AND INSTALLATION OF SUB-DRAINS (IF ANY) HAVE BEEN SUBMITTED BY THE SOILS ENGINEER.
- 5. NO ROCK OR SIMILAR MATERIAL GREATER THAN 8" IN DIAMETER WILL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE SOILS ENGINEER AND APPROVED IN ADVANCE BY THE AGENCY ENGINEER.
- 6. CONTINUOUS OBSERVATION BY THE SOILS ENGINEER OR HIS REPRESENTATIVE SHALL BE PROVIDED DURING ALL FILL PLACEMENT AND COMPACTION OPERATIONS WHERE FILLS HAVE A DEPTH GREATER THAN 30 FEET OR A SLOPE STEEPER THAN 2:1.

EARTHWORK QUANTITIES

ITEM	CUT	FILL
RAW PROJECT SITE ROUGH GRADE	72,368 C.Y.	1,179 C.Y.
TRENCH EXCAVATION (PIPES, FOOTINGS, DRAINAGE STRUCTURES, ETC.)	441 C.Y.	
SUBSIDENCE LOSS (253,420x0.2/27)		1,877 C.Y.
CUT SHRINKAGE LOSS (1,179 CY x 0.175)		250 C.Y.
OVER-EXCAVATION LOSS (68,931x4/27x0.175)		1,787 C.Y.
TOTALS	72,809 C.Y.	5,093 C.Y.
EXPORT	67,716	6 C.Y.

SEE SOILS REPORT FOR SITE GRADING RECOMMENDATIONS. THE CONTRACTOR SHALL VERIFY EARTHWORK QUANTITIES PRIOR TO COMMENCEMENT OF GRADING WORK. QUANTITIES SHOWN ARE APPROXIMATE. THE PERCENTAGE OF LOSS ARE APPROXIMATE, BASED ON THE TYPE OF SOILS. RAW AND OVER EXCAVATION QUANTITIES CAN VARY BASED ON ACTUAL SOIL CONDITIONS ENCOUNTERED DURING THE GRADING OPERATIONS.

TELEPHONE:

CABLE:

SPECTRUM

11 S. 4TH STREET

COMMUNICATIONS

REDLANDS, CA. 92373

7337 CENTRAL AVENUE

RIVERSIDE, CA. 92504

PH: (909) 322-7341

PH: (909) 217-0116

SOUTHERN CALIFORNIA EDISON FRONTIER COMMUNICATIONS

SURVEY MONUMENTS THAT EXIST AS SHOWN ON RECORDED MAPS, HIGHWAY MAPS, OR POINTS THAT PROVIDE SURVEY CONTROL WITHIN THE CONSTRUCTION AREA, SHALL BE LOCATED AND REFERENCED BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER (AUTHORIZED TO PRACTICE LAND SURVEYING). BEFORE THE START OF CONSTRUCTION AND CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR. THESE CORNER RECORDS SHALL DESCRIBE THE MONUMENTS FOUND WITH TIE DISTANCES TO REFERENCE POINTS FOR THE RESETTING OF A SURVEY MONUMENT. WHEN CONSTRUCTION IS COMPLETED, ANY DISTURBED MONUMENTS SHALL BE REPLACED AND CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYOR SHOWING THE NEW MONUMENTS.

CONTRACTOR'S RESPONSIBILITY FOR SAFETY

ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

IN SUBMITTING A BID FOR THIS WORK. THE CONTRACTOR AGREES THAT HE SHALL

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT THE EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND WITH "CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTOR OR SUBCONTRACTOR'S COMPLIANCE WITH SAID REGULATION AND ORDERS.

ENGINEERS NOTICE TO CONTRACTOR

THE INFORMATION SHOWN ON THESE PLANS REGARDING THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES IS BASED UPON A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THE UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE ALL THAT EXIST. THE ENGINEER ASSUMES NO LIABILITY FOR ANY UTILITY, STRUCTURE OR IRRIGATION LINE AND ITS LOCATION, WHETHER SHOWN OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO START OF CONSTRUCTION, TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HERON, AND FOR ANY DAMAGE OR PROTECTION OF THESE LINES.

THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (U.S.A.) PHONE NUMBER 811 TWO WORKING DAYS BEFORE DIGGING. PUBLIC WORKS DEPARTMENT CONSTRUCTION PERMITS. INVOLVING UNDERGROUND FACILITIES. ARE NOT VALID UNLESS THE APPLICANT HAS AN INQUIRY IDENTIFICATION NUMBER ISSUED BY THE U.S.A.

NOTICE OF INTENT FOR SWRCB

CONSTRUCTION PROJECTS MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT. OWNERS/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB), PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND MONITORING PLAN FOR THE SITE.

PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE SGPWA A COPY OF THE NOI WITH A VALID WDID NUMBER.

<u>SPECIAL NOTES</u>

CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN ANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF SITE.

DEWATERING OF CONTAMINATED GROUNDWATER OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION IS PROHIBITED. DEWATERING OF NON-CONTAMINATED GROUNDWATER REQUIRES A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE CALIFORNIA STATE REGIONAL WATER QUALITY CONTROL BOARD.

RECHARGE BASIN BOTTOM AND SIDE SLOPE RIPPING

UPON COMPLETION OF ALL EXCAVATION AND GRADING ACTIVITIES FOR THE RECHARGE BASIN, THE BASIN BOTTOM SHALL BE RIPPED TO A DEPTH OF 3 FEET AND THE SIDE SLOPES SHALL BE RIPPED TO A DEPTH OF 1.5 FEET. RIPPING SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SHALL BE COMPLETED PRIOR TO ACCEPTANCE OF GRADING WORK. THE PURPOSE OF THIS RIPPING IS TO ENHANCE SOIL INFILTRATION CAPACITY AND SUPPORT THE FUNCTION OF THE RECHARGE BASIN, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR INSPECTION AND APPROVAL OF THE RIPPED SURFACES.

<u>س</u>	CONSTRUCT REINFORCED CONCRETE SOWN FER BETTIE ON SHEET T.	I LA	
10	CONSTRUCT STAFF GAUGE PER DETAIL ON SHEET 2.	3 EA	
(11)	CONSTRUCT U-TYPE REINFORCED CONCRETE HEADWALL PER DETAIL ON SHEET 4.	4 EA	
12	CONSTRUCT WING-TYPE REINFORCED CONCRETE HEADWALL PER DETAIL ON SHEET 4.	2 EA	
13	CONSTRUCT GRAVITY HEADWALL PER DETAIL ON SHEET 4.	1 EA	
14	INSTALL 12" WATER F-25 MEDIUM DUTY DRAINAGE GATE, OR APPROVED EQUAL.	2 EA	
15)	INSTALL 24"X24" BROOKS PRODUCTS CATCH BASIN 2424 CB, WITH STEEL TRAFFIC GRATE AND FLOGARD FGP—24F CATCH BASIN INSERT FILTER (OR EQUAL) AND 12" OPEN SUMP AND GRAVEL BOTTOM PER DETAIL ON SHEET 4.	3 EA	
16)	CONSTRUCT CONCRETE PIPE INLET RISER PER CALTRANS STD. D75B, TYPE GCP WITH GRATED INLET PER CALTRANS STD. D77B, TYPE 36R.	1 EA	
17)	CONSTRUCT ROCK SLOPE AND OUTLET PROTECTION PER CALTRANS STANARD SPECIFICATION SECTION 72-2, CLASS II, T=14", PLACEMENT METHOD B.	335 SF	(33 TONS)
18)	CONSTRUCT CONCRETED ROCK LINED CHANNEL PER CALTRANS STANDARD SPECIFICATION $72-3$, CLASS II, $T=14$ ", AND DETAIL ON SHEET 4.	154 LF	
19	CONSTRUCT ROCK SLOPE AND OUTLET PROTECTION PER CALTRANS STANARD SPECIFICATION SECTION $72-2$, CLASS VI, $T=32$ ", PLACEMENT METHOD A.	1,710 SF	(376 TONS)
20	INSTALL CONCRETE WHEEL STOP IN ACCESSIBLE PARKING SPACE PER DETAIL ON SHEET 4.	2 EA	
21)	PAINT 4" WHITE PARKING SPACE STRIPE PER CITY STANDARDS.	120 LF	
22	CONSTRUCT ANTI-SEEP COLLAR PER DETAIL ON SHEET 4.	2 EA	
23	DEMO EXISTING IRRIGATION STRUCTURE PER OWNER.	1 EA	
24	PROTECT EXISTING POWER POLE AND GUY WIRE IN PLACE.	1 LS	
<u>25</u>	CUT AND REMOVE ABANDONED PIPELINES TO LIMITS OF GRADING CONFLICT. PLUG ENDS AND DISPOSE CUT PIPE PER PROJECT SPECIFICATIONS. EXISTING WATER LINE TO BE ABANDONED PRIOR, PER SEPARATE PLANS.	760 LF	
26	ADJUST EXISTING MANHOLE TO GRADE PER YVWD STD. DWG. S-5. REMOVE BOLLARD.	1 EA	
27	INSTALL 1" WATER SERVICE AND 3/4" METER PER SMWC STD. DWG. W-4A. MODIFIED TO OMIT U-BRANCH FIRE SERVICE ASSEMBLY.	1 EA	
28	CONSTRUCT CSP GRATED INLET TYPE X MODIFIED TO 24" DIAMETER PER RCFC&WCD STD. DWG. CB108. OMIT OPENINGS.	1 EA	
	WALL & FENCE CONSTRUCTION NOTES: EST.	QUANTITIES	
1	CONSTRUCT 20"x20" MASONRY COLUMN WITH STONE VENEER AND 2" PYRAMIDAL CAP PER DETAIL ON SHEET 5.	2 EA	
2	INSTALL 7' HIGH WELDED STEEL FENCE, "XTRA—HEAVY GUARDIAN" BY BUILDERS FENCE COMPANY, INC. OR APPROVED EQUAL. SEE DETAIL ON SHEET 5 AND SHOP DRAWINGS AND CALCS BY OTHERS.	80 LF	
3	INSTALL 7' HIGH WELDED STEEL SLIDING GATE, "XTRA—HEAVY GUARDIAN" OVERHEAD ROLLER STYLE BY BUILDERS FENCE COMPANY, INC. OR APPROVED EQUAL. W=30', SEE DETAIL ON SHEET 5 AND SHOP DRAWINGS AND CALCS BY OTHERS.	1 EA	
4	INSTALL 6' HIGH CHAIN LINK FENCE WITH BARBED WIRE, H=6', PER SPPPWC STD. 600-4.	2,550 LF	
5	INSTALL 6' HIGH CHAIN LINK DRIVE SWING GATE WITH BARBED WIRE, $W=12'$, $H=6'$, PER SPPWC STD. $600-4$.	2 EA	
6	INSTALL 6' HIGH CHAIN LINK DRIVE SWING GATE WITH BARBED WIRE, $W=15'$, $H=6'$, PER SPPWC STD. $600-4$.	1 EA	
7	INSTALL 6' HIGH CHAIN LINK DRIVE DOUBLE SWING GATE WITH BARBED WIRE, $W=20'$, $H=6'$, PER SPPWC STD. $600-4$.	1 EA	
8	REMOVE AND DISPOSE OF EXISTING FENCE, OR AS COORDINATED WITH OWNER.	1 EA	
ā	EROSION CONTROL CONSTRUCTION NOTES: EST.	QUANTITIES	
Λ	CONSTRUCT SANDBAG CHECK DAM PER CASQA BMP HANDBOOK SC-4. REQUIRES SEDIMENT REMOVAL AFTER RAIN EVENTS AND WHEN DEPTH	24 EA	
	REACHES ONE THIRD OF CHECK DAM HEIGHT.		
2		2,670 LF	
2 3	REACHES ONE THIRD OF CHECK DAM HEIGHT.	2,670 LF 8,830 LF	
\frac{1}{3} \frac{1}{4}	REACHES ONE THIRD OF CHECK DAM HEIGHT. INSTALL SILT FENCE PER CASQA BMP HANDBOOK SE-1.		
\$\frac{1}{3}\$ \$\frac{1}{4}\$ \$\frac{1}{5}\$	REACHES ONE THIRD OF CHECK DAM HEIGHT. INSTALL SILT FENCE PER CASQA BMP HANDBOOK SE-1. INSTALL FIBER ROLL SLOPE PROTECTION PER CASQA BMP HANDBOOK SE-5. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE PER CASQA BMP HANDBOOK TC-1	8,830 LF	
	REACHES ONE THIRD OF CHECK DAM HEIGHT. INSTALL SILT FENCE PER CASQA BMP HANDBOOK SE-1. INSTALL FIBER ROLL SLOPE PROTECTION PER CASQA BMP HANDBOOK SE-5. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE PER CASQA BMP HANDBOOK TC-1 FOR CONSTRUCTION ACCESS. CONSTRUCT STORM DRAIN INLET PROTECTION PER CASQA BMP HANDBOOK SC-10.	8,830 LF 3 EA	
\$\frac{1}{3}\$ \$\	REACHES ONE THIRD OF CHECK DAM HEIGHT. INSTALL SILT FENCE PER CASQA BMP HANDBOOK SE-1. INSTALL FIBER ROLL SLOPE PROTECTION PER CASQA BMP HANDBOOK SE-5. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE PER CASQA BMP HANDBOOK TC-1 FOR CONSTRUCTION ACCESS. CONSTRUCT STORM DRAIN INLET PROTECTION PER CASQA BMP HANDBOOK SC-10. REQUIRES PERIODIC SEDIMENT REMOVAL.	8,830 LF 3 EA 3 EA	

PRECISE GRADING CONSTRUCTION NOTES:

ON NATIVE SOILS COMPACTED TO 95%.

(5) CONSTRUCT 6" CURB PER SPPWC STD 120-3, TYPE A1-6.

(6) INSTALL 24" RCP (D1500) DRAIN PIPE TO ELEVATIONS SHOWN.

(7) INSTALL 18" RCP (D1500) DRAIN PIPE TO ELEVATIONS SHOWN.

(8) INSTALL 12" RCP (D1500) DRAIN PIPE TO ELEVATIONS SHOWN.

(9) CONSTRUCT REINFORCED CONCRETE SUMP PER DETAIL ON SHEET 4.

(1) CONSTRUCT 3" ASPHALT CONCRETE PAVEMENT OVER 6" CLASS II AGGREGATE BASE

(2) CONSTRUCT 6" CLASS II AGGREGATE BASE ON NATIVE SOILS COMPACTED TO 95%.

(3) construct 40' wide 6" PCC concrete apron on native soils compacted to

4 CONSTRUCT VARIABLE WIDTH 6" PCC CONCRETE APRON ON NATIVE SOILS COMPACTED TO 95% W/ #4 BARS AT 18" O.C. BOTH WAYS AND PER DETAIL ON SHEET 4.

95% W/ #4 BARS AT 18" O.C. BOTH WAYS AND PER DETAIL ON SHEET 4.

13,525 SF (246 TONS AC)

50,400 SF (1,638 TONS AC)

2,436 SF

478 SF

173 LF

98 LF

70 LF

290 LF

1 EA

(440 TONS AB

HANDBOOK EC-3 AND EC-4.

00	
1185	- EXISTING CONTOUR ELEVA
	- STREET CENTERLINE
	- CURB AND GUTTER
	- PROJECT PROPERTY LINE
	- PROPOSED WATER MAIN
	- FENCE LINE
	- DRAINAGE FLOW LINE
	- HIGH WATER LINE
Y	- PROPOSED SLOPE
	- LANDSCAPED AREA
	- ASPHALT PAVED AREA
	- CLASS II BASE SURFACE
x x	- EX. CHAIN LINK FENCE
	- EXISTING BUILDING LINE
	- EXISTING WATER MAIN

(8) CONSTRUCT SANITARY/WASTE MANAGEMENT PER CASQA BMP HANDBOOK

PROPOSED FINISH CONTOUR ELEVATION

APPLY HYDRAULIC SEED AND MULCH PER CASQA BMP

FH - FIRE HYDRANT WM - WATER METER PP - EXISTING POWER POLE IRR - EXISTING IRRIGATION DEVICES M - EXISTING WATER METER MH - EXISTING MANHOLE WV - EXISTING WATER VALVE

2 EA

49,876 SF

2.0% - PROPOSED GRADE & DIRECTION

 $\frac{50.00}{FS}$ - Proposed spot elevation

HWL - HIGH WATER LINE

GV — EXISTING GAS VALVE SL - EXISTING STREET LIGHT AREA FG - FINISH GRADE

ELEVATION

FS - FINISH SURFACE FL - FLOW LINE TC - TOP OF CURB TG - TOP OF GRATE INV - INVERT DRAIN

- - - - 2"G- - EXISTING GAS MAIN SAN GORGONIO PASS WATER AGENCY COUNTY LINE RECHARGE BASIN 210 BEAUMONT AVENUE BEAUMONT, CA 92223

6-9-2025

— — —8"S— — — — — EXISTING SEWER MAIN

REGIONAL RECHARGE BASIN COUNTY LINE ROAD WATERLINE REPLACEMENT PROJECT

CALL BEFORE YOU DIG CALL: TOLL FREI Two Working Days Before You Dig

Underground Service Alert

SUBMITTED FOR REVIEW.

SHR PLAN PREPARED UNDER THE SUPERVISION OF:

DRAWN BY:

STEVEN H. RITCHEY R.C.E. 51129 DATE

CHECKED BY:

NO. 51129 Exp. 9-30-25

CONSULTANTS, INC P.O. BOX 541, 650 AVENUE K, CALIMESA, CALIFORNIA 92320 PH: (909) 795 - 8882

REV. BY

YUCAIPA VALLEY WATER DISTRICT SOUTHERN CALIFORNIA GAS

LOCAL UTILITY COMPANIES:

SOUTH MESA WATER COMPANY

391 WEST AVENUE L

CALIMESA, CA 92320

PH: (909) 795-2401

12270 2ND STREET

YUCAIPA, CA. 92399

PH: (909) 790-3300

REVISIONS APPR. DATE

287 TENNESSEE STREET

REDLANDS, CA. 92373

PH: (909) 307-6749

1981 W. LUGONIA AVENUE

REDLANDS, CA. 92374

PH: (909) 335-7871

BASIS OF BEARING: THE BASIS OF BEARINGS FOR THIS MAP IS THE CENTERLINE OF AVENUE "L" BEING EAST PER

NGS DESIGNATION C 38 (PID DX3700) DISK SET IN TOP OF CONCRETE POST STAMPED C-38 1965" IN MEDIAN OF, 60.7' E OF THE CL OF THE NORTHBOUND LANES OF CALIMESA BLVD, 41.3' OF THE E CURB OF THE BLVD, 22.0' S OF THE WESTBOUND CL OF MYRTLEWOOD DR, 19.7' NO OF THE EASTBOUND CL OF MYRTLEWOOD DR. 3.9' W OF

BENCH MARK:

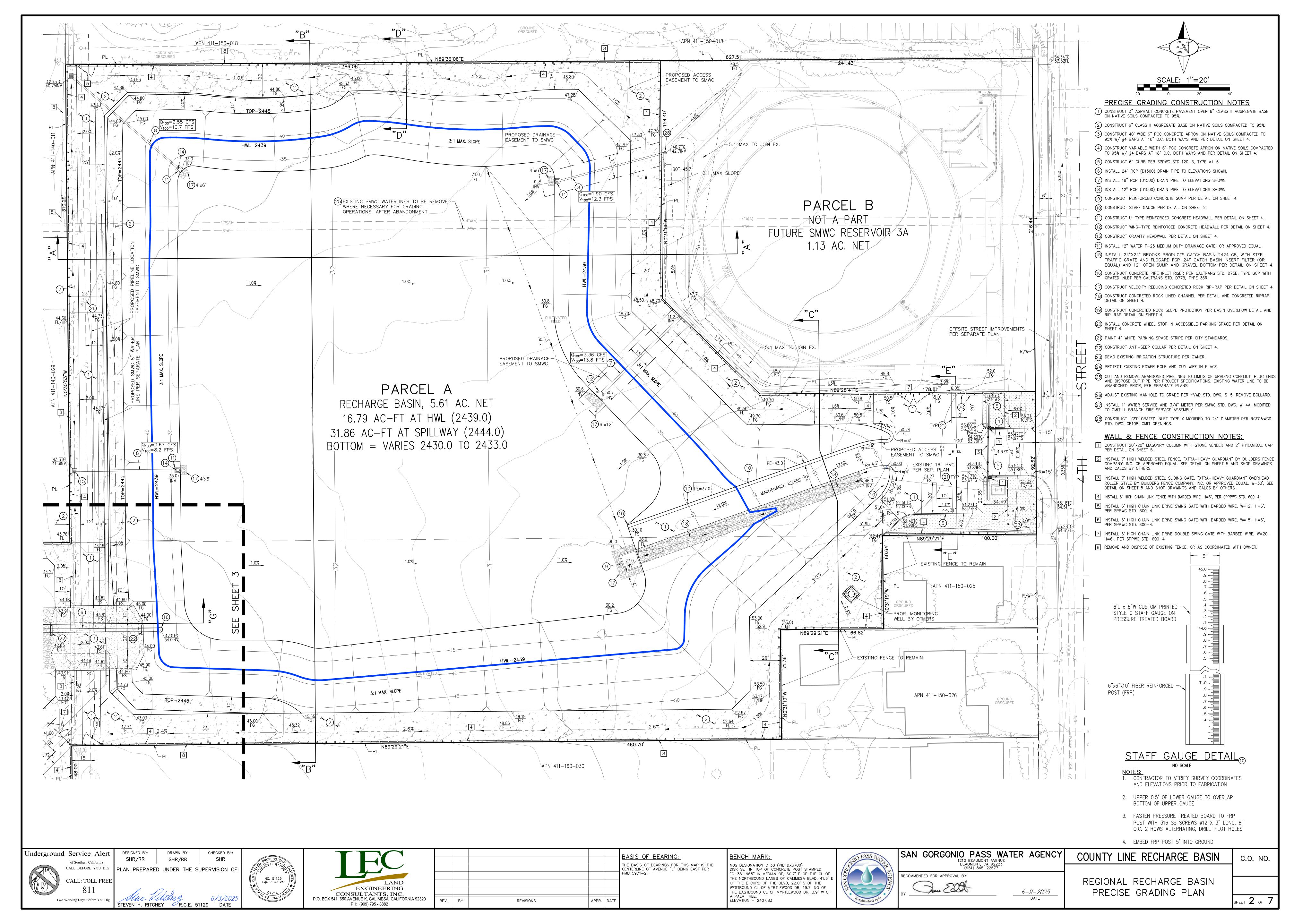
A PALM TREE.

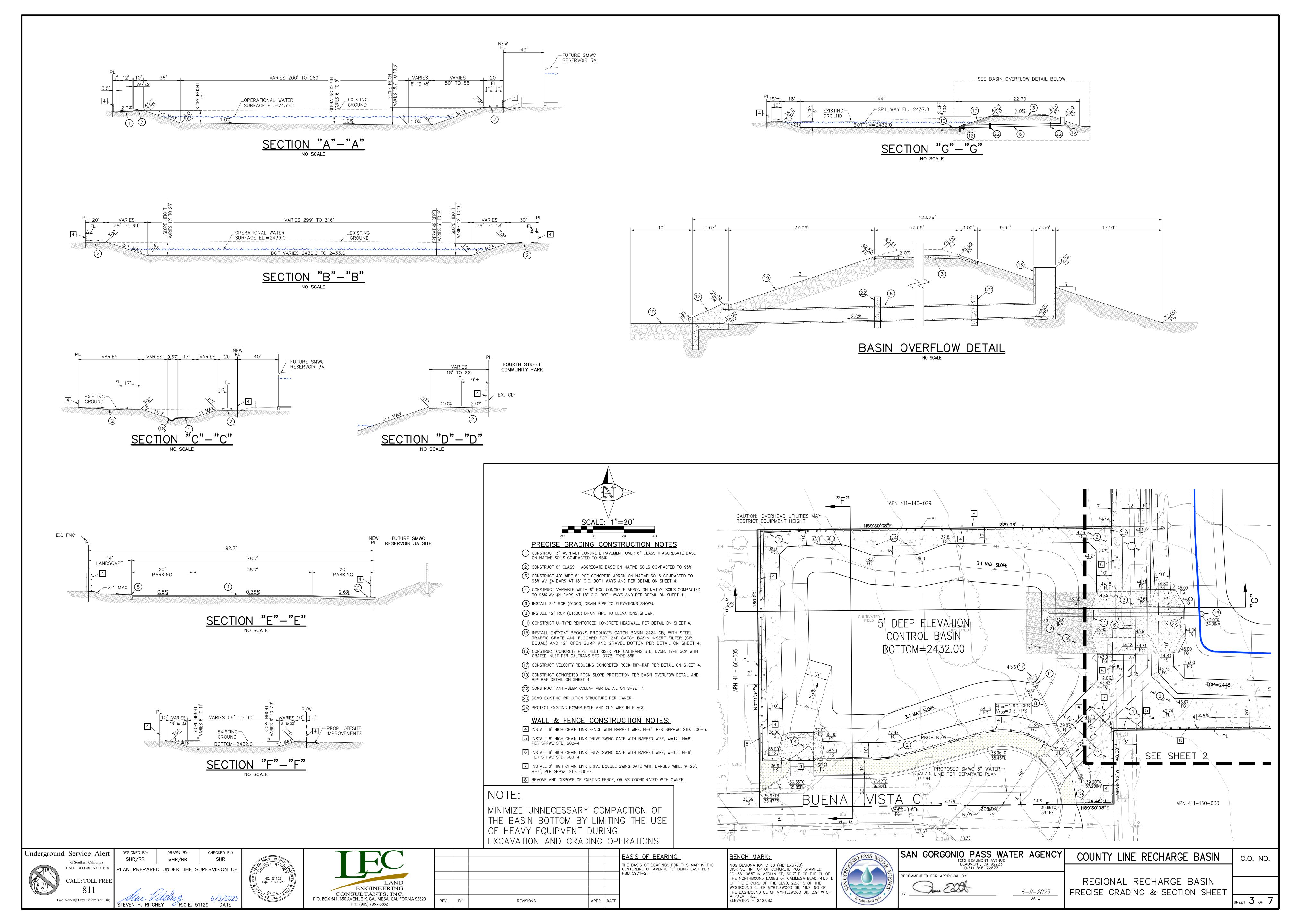
ELEVATION = 2407.83

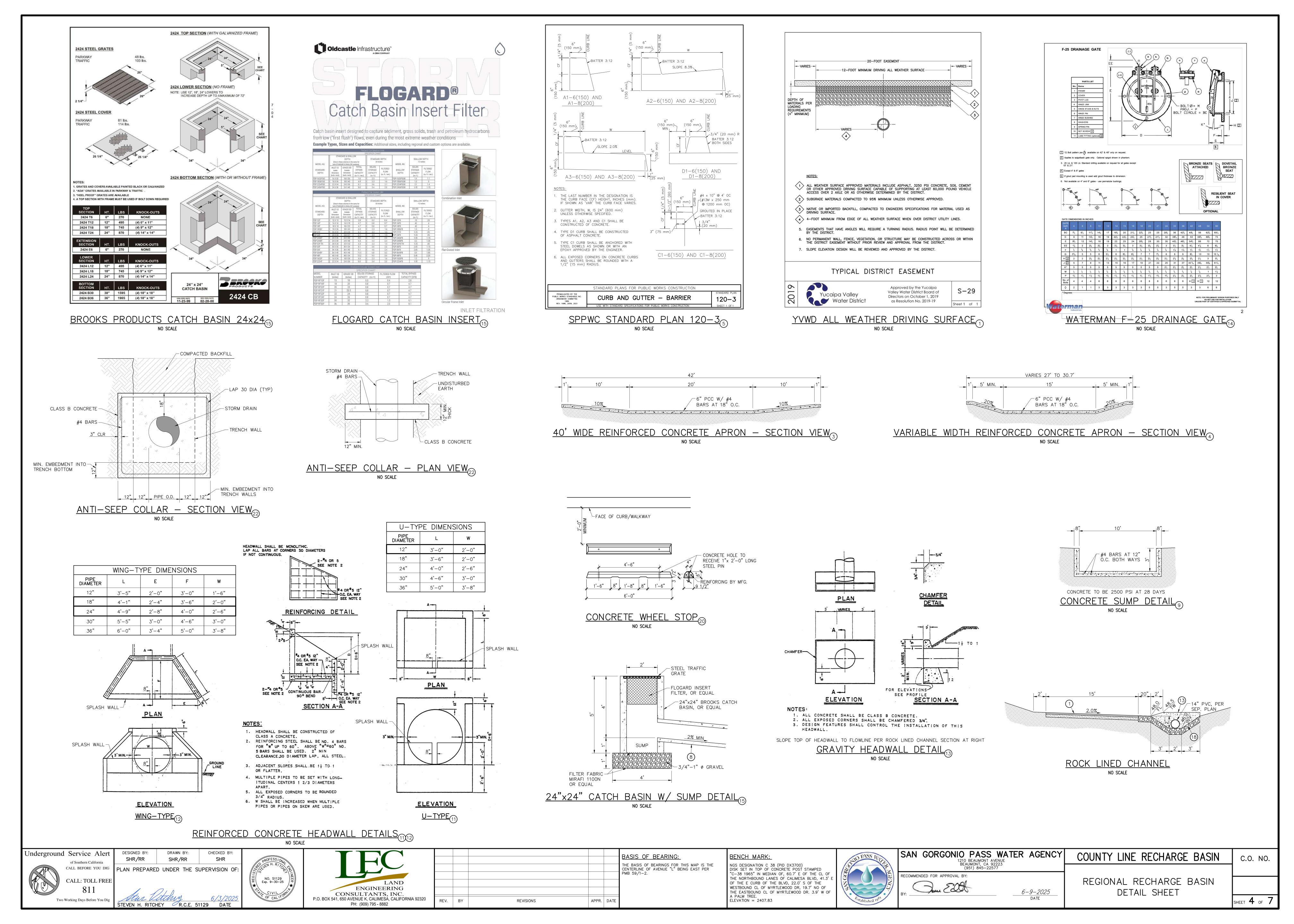
ECOMMENDED FOR APPROVAL BY:

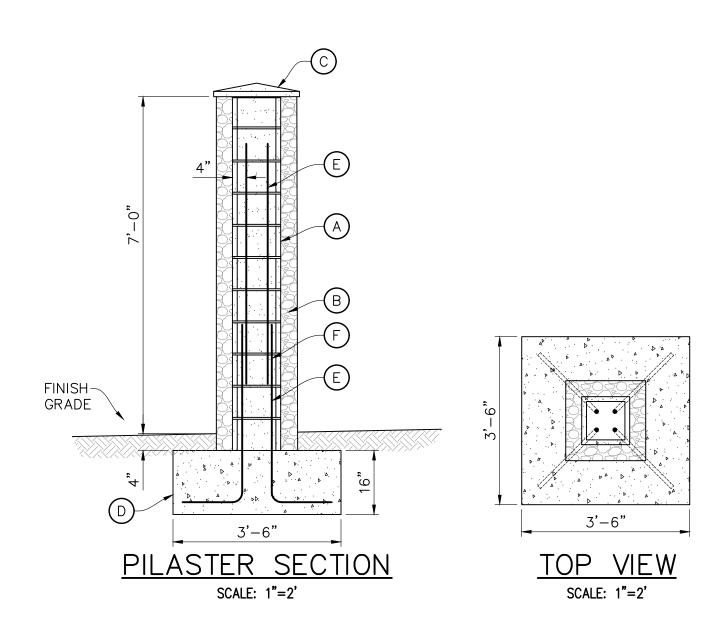
SHEET 1 OF 7

C.O. NO.



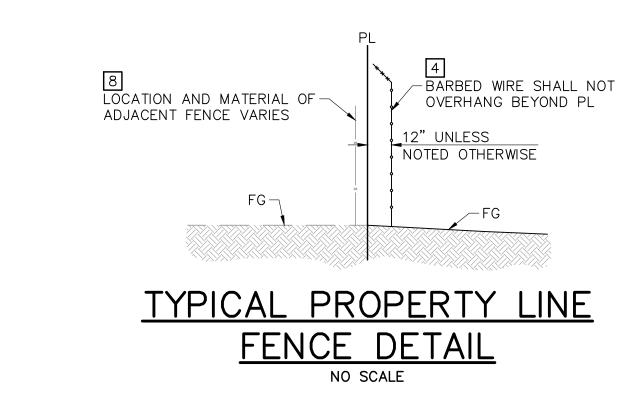


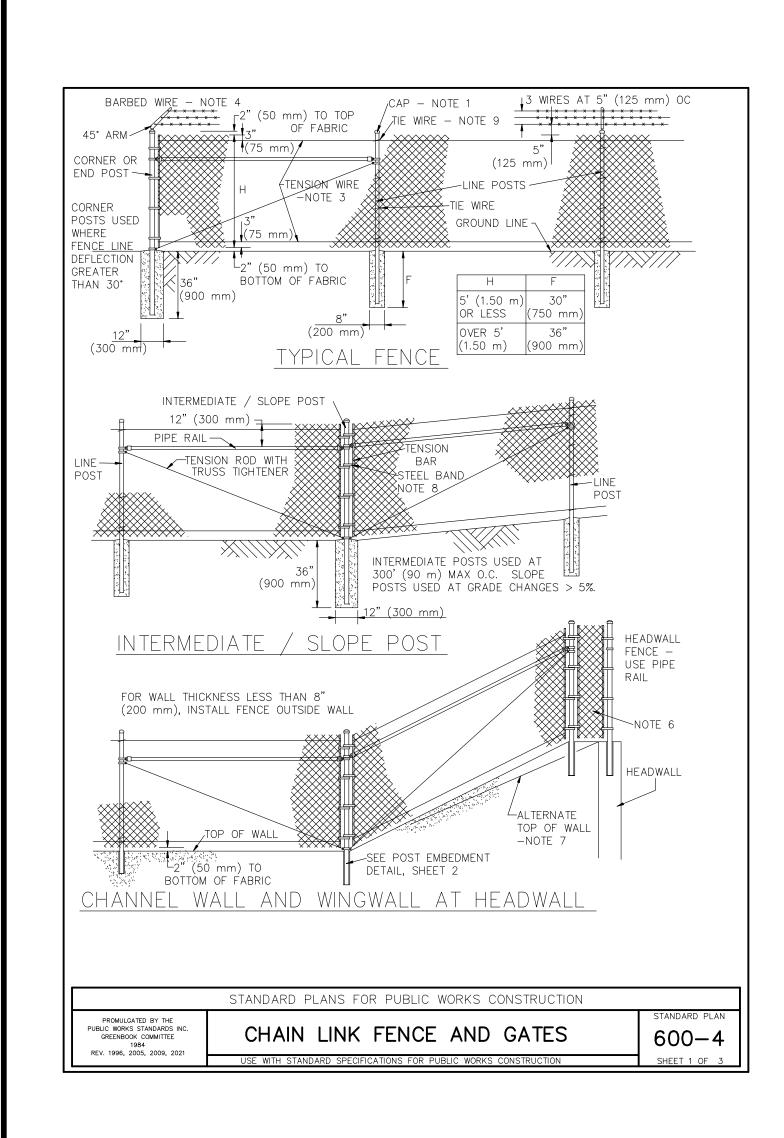


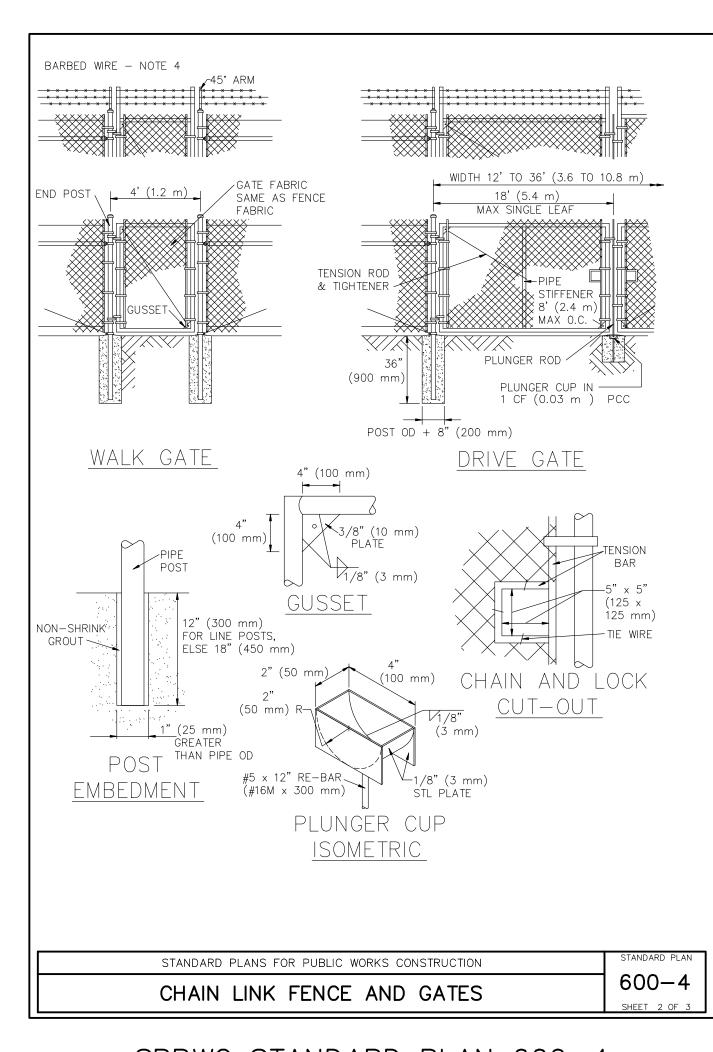


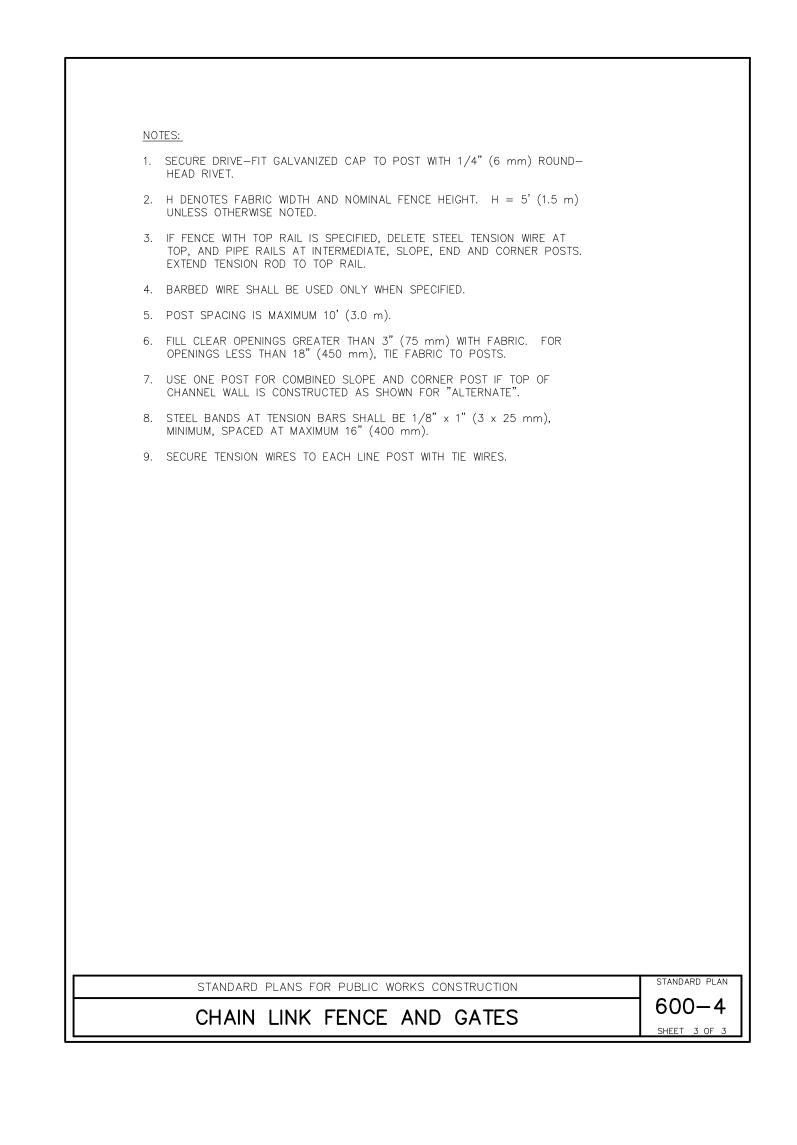
PILASTER NOTES

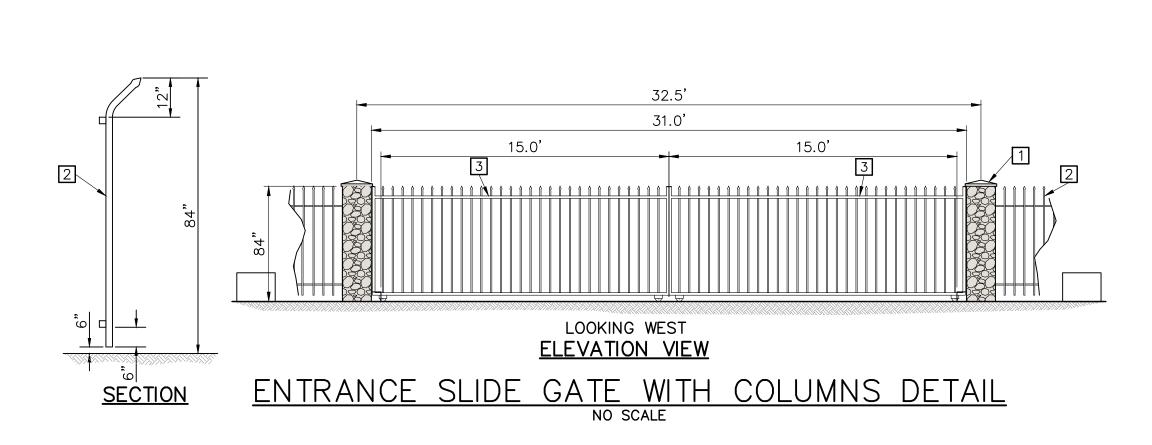
- A 8"x12"x12" CONCRETE BLOCK—SOLID GROUT. GRADE "N" PER ASTM C—90. GROUT 1 PART CEMENT, 3 PARTS SAND AND 3 PARTS PEA GRAVEL. AT 2500 PSI. USE PRECISION BLOCK. GRAY COLOR.
- (B) 4" THICK STONE VENEER WRAP, COLOR BY LANDSCAPE ARCHITECT
- (C) 24"x24" MASONRY PYRAMIDAL CAP OR PER OWNER.
- D CONCRETE TO BE 2500 PSI AT 28 DAYS. POUR AGAINST UNDISTURBED COMPONENT NATURAL GROUND OR COMPACTED FILL.
- (E) GRADE 60 #4 BARS VERTICAL BARS.
- (F) LAP BARS 30 DIA. MIN.











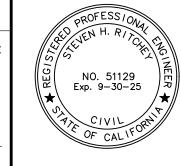
WALL & FENCE CONSTRUCTION NOTES:

- 1 CONSTRUCT 20"x20" MASONRY COLUMN WITH STONE VENEER AND 2" PYRAMIDAL CAP PER DETAIL ON SHEET 5.
- 2 INSTALL 7' HIGH WELDED STEEL FENCE, "XTRA—HEAVY GUARDIAN" BY BUILDERS FENCE COMPANY, INC. OR APPROVED EQUAL. SEE DETAIL ON SHEET 5 AND SHOP DRAWINGS AND CALCS BY OTHERS.
- 3 INSTALL 7' HIGH WELDED STEEL SLIDING GATE, "XTRA-HEAVY GUARDIAN" OVERHEAD ROLLER STYLE BY BUILDERS FENCE COMPANY, INC. OR APPROVED EQUAL. W=30', SEE DETAIL ON SHEET 5 AND SHOP DRAWINGS AND CALCS BY OTHERS.
- 4 INSTALL 6' HIGH CHAIN LINK FENCE WITH BARBED WIRE, H=6', PER SPPPWC STD. 600-4.
- 5 INSTALL 6' HIGH CHAIN LINK DRIVE SWING GATE WITH BARBED WIRE, W=12', H=6', PER SPPWC STD. 600-4.
- 6 INSTALL 6' HIGH CHAIN LINK DRIVE SWING GATE WITH BARBED WIRE, W=15', H=6', PER SPPWC STD. 600-4.
- 7 INSTALL 6' HIGH CHAIN LINK DRIVE DOUBLE SWING GATE WITH BARBED WIRE, W=20', H=6', PER SPPWC STD. 600-4.
- 8 REMOVE AND DISPOSE OF EXISTING FENCE, OR AS COORDINATED WITH OWNER.

SPPWC STANDARD PLAN 600-4 4567 NO SCALE

Underground Service Alert	
of Southern California CALL BEFORE YOU DIG	P
CALL: TOLL FREE 811	
Two Working Days Before You Dig	

CHECKED BY: DESIGNED BY: DRAWN BY: SHR/RR SHR SHR/RR PLAN PREPARED UNDER THE SUPERVISION OF: STEVEN H. RITCHEY R.C.E. 51129 DATE





LAND			
ENGINEERING			
CONSULTANTS, INC. 541, 650 AVENUE K, CALIMESA, CALIFORNIA 92320			
PH: (909) 795 - 8882	REV.	BY	REVISIONS

BASIS OF BEARING: **BENCH MARK:** THE BASIS OF BEARINGS FOR THIS MAP IS THE CENTERLINE OF AVENUE "L" BEING EAST PER PMB 59/1-2.

APPR. DATE

NGS DESIGNATION C 38 (PID DX3700) DISK SET IN TOP OF CONCRETE POST STAMPED "C-38 1965" IN MEDIAN OF, 60.7' E OF THE CL OF THE NORTHBOUND LANES OF CALIMESA BLVD, 41.3' E OF THE E CURB OF THE BLVD, 22.0' S OF THE WESTBOUND CL OF MYRTLEWOOD DR, 19.7' NO OF THE EASTBOUND CL OF MYRTLEWOOD DR. 3.9' W OF A PALM TREE. ELEVATION = 2407.83



/	10 PAS	S Way	\
Sec. Of the Control o			FZ
SS	<u> </u>		ENC
al		1	7

SAN GORGONIO PASS WATER AGENCY 1210 BEAUMONT AVENUE BEAUMONT, CA 92223 (951) 845-22577

RECOMMENDED FOR APPROVAL BY:

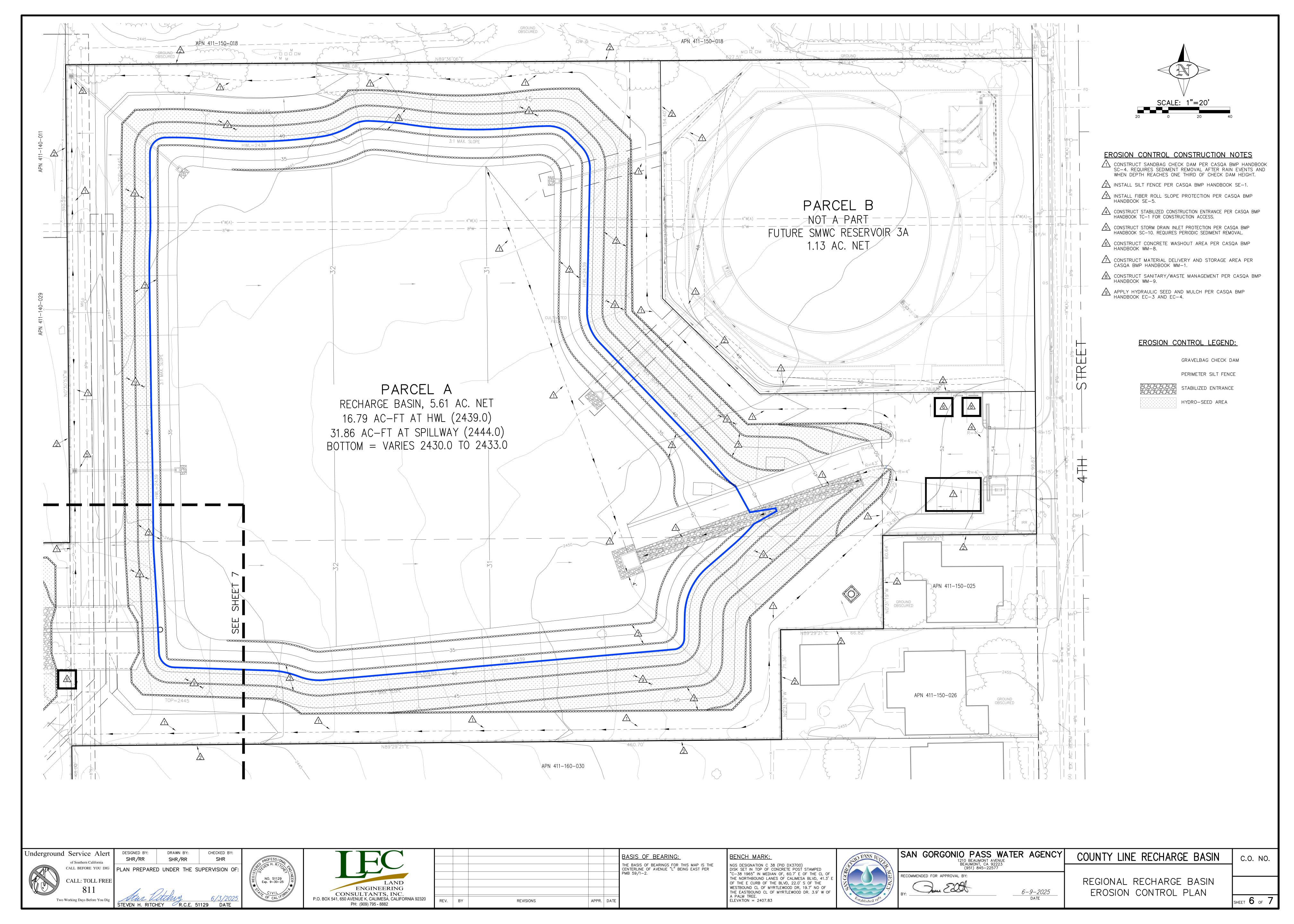
6-9-2025

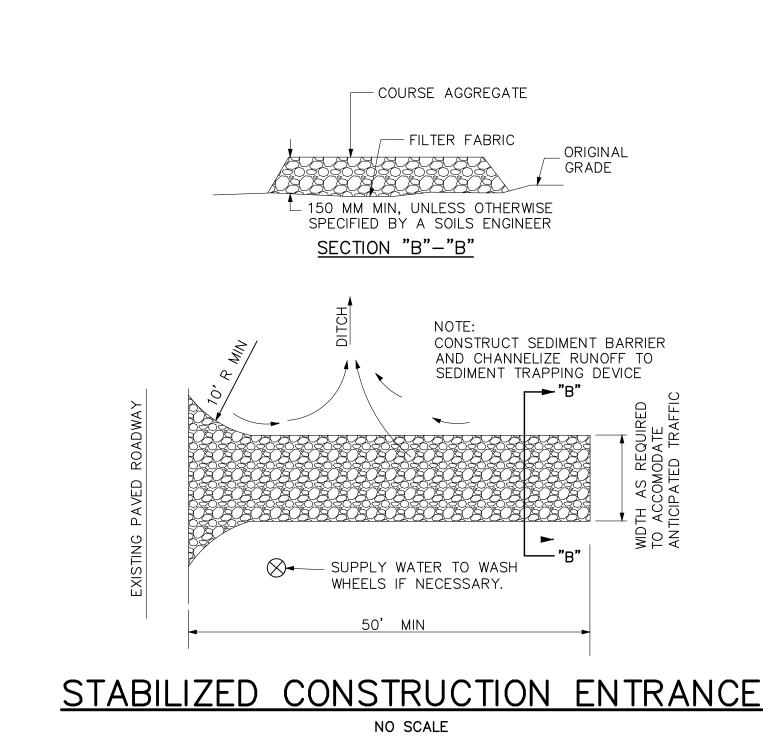
COUNTY LINE RECHARGE BASIN

REGIONAL RECHARGE BASIN WALL & FENCE DETAIL SHEET

SHEET 5 OF 7

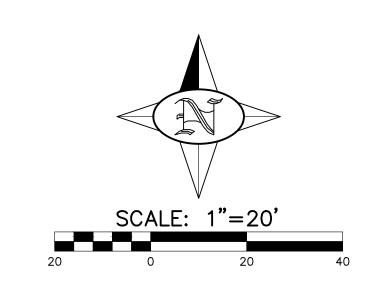
C.O. NO.





STREET SUBGRADE OR EXISTING IMPROVED _ PAVED SURFACE. 12"____\ SECTION "Y"-"Y" EXISTING ROUGH GRADE LINE OR EXISTING IMPROVED PAVED SURFACE.

GRAVELBAG/SANDBAG DETAIL NO SCALE



EROSION CONTROL CONSTRUCTION NOTES

CONSTRUCT SANDBAG CHECK DAM PER CASQA BMP HANDBOOK SC-4. REQUIRES SEDIMENT REMOVAL AFTER RAIN EVENTS AND WHEN DEPTH REACHES ONE THIRD OF CHECK DAM HEIGHT.

1 INSTALL SILT FENCE PER CASQA BMP HANDBOOK SE-1 INSTALL FIBER ROLL SLOPE PROTECTION PER CASQA BMP HANDBOOK SE-5.

CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE PER CASQA BMP HANDBOOK TC-1 FOR CONSTRUCTION ACCESS.

CONSTRUCT STORM DRAIN INLET PROTECTION PER CASQA BMP HANDBOOK SC-10. REQUIRES PERIODIC SEDIMENT REMOVAL.

CONSTRUCT CONCRETE WASHOUT AREA PER CASQA BMP HANDBOOK WM-8. CONSTRUCT MATERIAL DELIVERY AND STORAGE AREA PER CASQA BMP HANDBOOK WM-1.

CONSTRUCT SANITARY/WASTE MANAGEMENT PER CASQA BMP HANDBOOK WM-9.

APPLY HYDRAULIC SEED AND MULCH PER CASQA BMP HANDBOOK EC-3 AND EC-4.

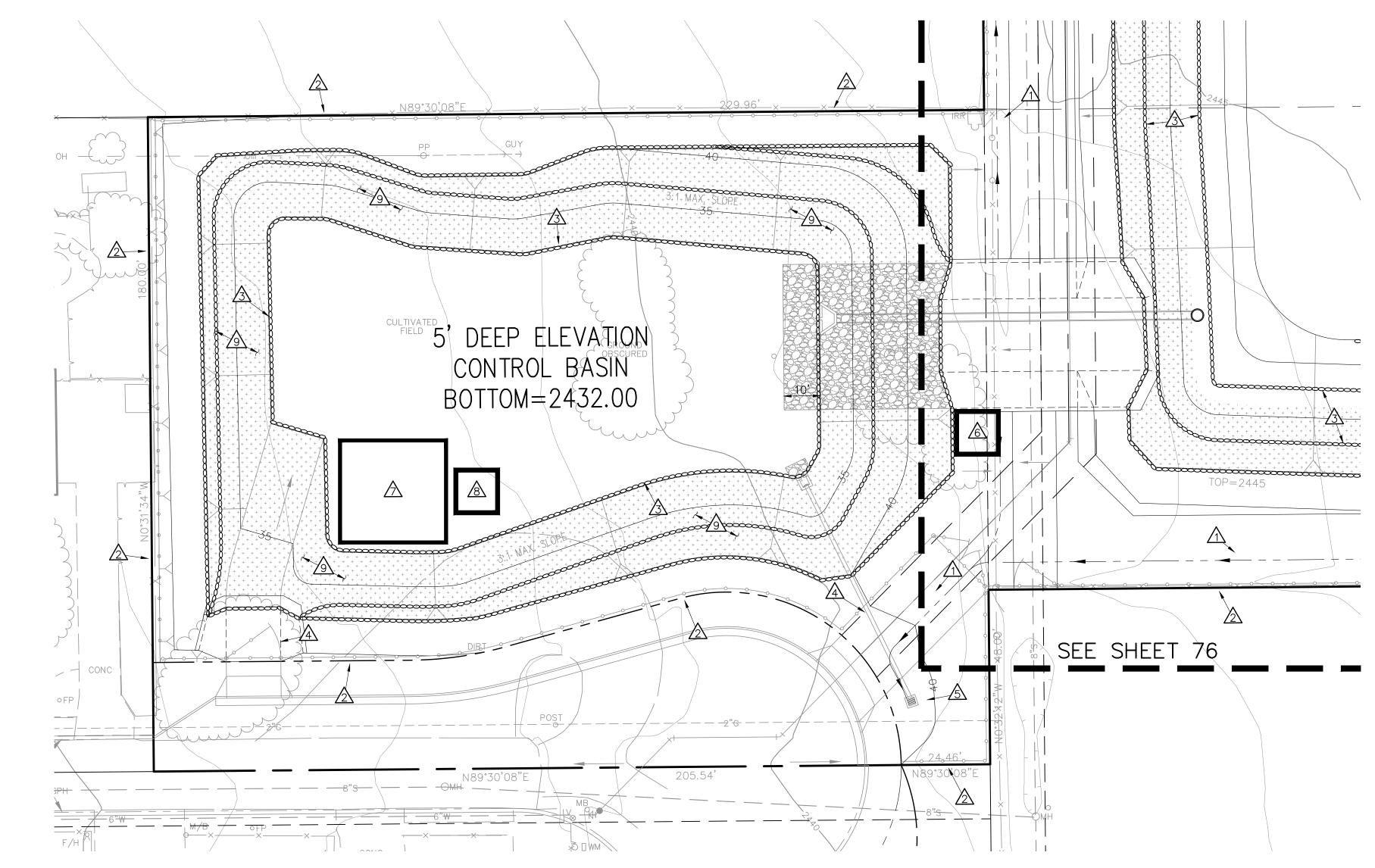
EROSION CONTROL LEGEND:

GRAVELBAG CHECK DAM PERIMETER SILT FENCE

HYDRO-SEED AREA

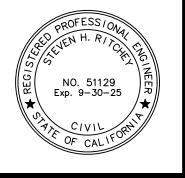
APPR. DATE

STABILIZED ENTRANCE



erground Service Alert	
of Southern California	
CALL BEFORE YOU DIG	Ρl
CALL: TOLL FREE 811	
Two Working Days Before You Dig	<u>~</u>
I ,	J

CHECKED BY: PLAN PREPARED UNDER THE SUPERVISION OF: STEVEN H. RITCHEY R.C.E. 51129 DATE





LAND			
ENGINEERING			
CONSULTANTS, INC.			
CONSULTANTS, INC. OX 541, 650 AVENUE K, CALIMESA, CALIFORNIA 92320 PH: (909) 795 - 8882	REV.	BY	REVISIONS

BASIS OF BEARING:	BENCH MARK:
THE BASIS OF BEARINGS FOR THIS MAP IS THE CENTERLINE OF AVENUE "L" BEING EAST PER PMB 59/1-2.	NGS DESIGNATION C 38 (PID DX3700) DISK SET IN TOP OF CONCRETE POST STAM "C-38 1965" IN MEDIAN OF, 60.7' E OF TH THE NORTHBOUND LANES OF CALIMESA BLV OF THE E CURB OF THE BLVD, 22.0' S OF WESTBOUND CL OF MYRTLEWOOD DR, 19.7' I THE EASTBOUND CL OF MYRTLEWOOD DR. 3 A PALM TREE. ELEVATION = 2407.83

	ONO PASS WATER
OF .3' E	AGEN
- OF	Established 1961

AGENOR	SAN GORGONIO PASS WATER 1210 BEAUMONT AVENUE BEAUMONT, CA 92223 (951) 845-22577	AGENCY
	RECOMMENDED FOR APPROVAL BY: BY: 6	-9-2025 DATE

COUNTY LINE RECHARGE BASIN	C.O. NO.
REGIONAL RECHARGE BASIN	
EROSION CONTROL & DETAIL SHEET	SHEET 7 OF 7

GENERAL NOTES

- MATERIALS AND INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE SAN GORGONIO PASS WATER AGENCY (S.G.P.W.A.) AND THE SOUTH MESA WATER COMPANY (S.M.W.C.) STANDARDS, LATEST REVISION THEREOF.
- WATER MAINS SHALL BE 8" MINIMUM PVC C-900 DR-14, OR 8" MINIMUM DUCTILE IRON PIPE (D.I.P.) CL-350, O-RING BELL AND SPIGOT TYPE. SIZE OF MAINS SHALL BE DETERMINED BY S.G.P.W.A., AS SHOWN ON THESE PLANS.
- . HYDRO-TEST TO 200 P.S.I. MIN. 2 HOURS DURATION AT LOWEST POINT TO THE
- 3. GATE VALVES TO BE MUELLER (BBM BODY, BRASS MOUNTED NON-RISING STEM, RESILIENT WEDGE) FLANGED ENDS.
- 4. CONTRACTOR SHALL NOTIFY S.G.P.W.A. 48 HOURS PRIOR TO SHUTDOWN OF WATER MAINS AND/OR INSPECTIONS. 5. INSTALLATION SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS AND LATEST
- S.M.W.C. SPECIFICATIONS AND/OR AS DIRECTED BY THE ENGINEER. S. PROVIDE A MINIMUM OF 10 FEET HORIZONTAL SEPARATION, OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN SEWER AND POTABLE WATER MAINS, AND A MINIMUM
- DISTANCES CLOSER REQUIRE HEALTH DEPT. APPROVAL. BACK FILL COMPACTION AND RESURFACING IN EXISTING STREETS SHALL CONFORM TO S.M.W.C STD. W-16, AND CITY OF CALIMESA TRENCH REPAIR SPECIFICATIONS (LATEST REVISION THEREOF).

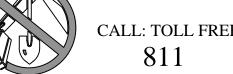
OF 4 HORIZONTAL SEPARATION BETWEEN STORM DRAIN AND POTABLE WATER MAINS.

- 8. ALL VALVES INSTALLED BY THE CONTRACTOR SHALL BE ACCESSIBLE FOR OPERATION WITH COMPLETE VALVE BOX TO GRADE DIRECTLY FOLLOWING CONNECTION TO
- 9. SAND SHALL BE USED FOR BEDDING AND BACKFILL TO A DEPTH OF 12 INCHES ABOVE PIPE. INSTALL 2 INCH WIDE ALAMATAPE, 1 FOOT ABOVE PIPE.
- 10. COMBINATION AIR/VACUUM RELEASE VALVES SHALL BE AT LEAST 1 INCH IN SIZE, AND SHALL BE CRISPIN, STAINLESS STEEL TRIM PER S.M.W.C. STANDARDS.
- 11. NON-POTABLE WATER MAIN SHALL HAVE A MINIMUM COVER OF 66" FROM THE TOP OF THE PIPE.
- 12. RESTRAINED JOINTS SHALL BE USED AT ALL ANGLE FITTINGS, TEES, ELBOWS AND
- 13. THE ESTIMATED QUANTITY FOR EACH SPECIFIC ITEM OF THE WORK DESIGNATED ON THE PLANS SHALL BE CONSIDERED AS APPROXIMATE ONLY AND NO GUARANTEE IS MADE THAT THE QUANTITIES WHICH CAN BE DETERMINED BY COMPUTATIONS, BASED ON THE DETAILS AND THE DIMENSIONS SHOWN ON THE PLANS, WILL EQUAL THE ESTIMATED QUANTITIES. THE ESTIMATE OF QUANTITIES IS PROVIDED BY THE ENGINEER ONLY FOR THE CONVENIENCE OF THE OWNER. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AND BE RESPONSIBLE FOR HIS OWN CONSTRUCTION QUANTITIES BEFORE SUBMITTING A BID. ANY ITEM OF WORK, OR PORTION THEREOF, REQUIRED BY THESE PLANS WHICH IS NOT SPECIFICALLY LISTED IN THE ESTIMATE OF QUANTITIES SHALL BE CONSIDERED AS INCLUDED IN THE OTHER ITEMS OF WORK.
- 14. THE CONTRACTOR IS ADVISED THAT THE WORK ON THIS PROJECT MAY INVOLVE WORKING IN A CONFINED SPACE. CONTRACTOR SHALL BE RESPONSIBLE FOR "CONFINED AIR SPACE" ARTICLE 108 TITLE 8 CALIFORNIA ADMINISTRATIVE CODE.
- 15. ALL PIPELINES OR SUBSTRUCTURES OF ANY KIND NOT SHOWN ON THESE PLANS LYING WITHIN THE AREA OF IMPROVEMENT SHALL BE REMOVED, RELOCATED, OR REINFORCED TO THE SATISFACTION OF THE CITY ENGINEER AND THE COMPANY OWNING THE FACILITY AT NO EXPENSE TO THE CITY OF CALIMESA, S.G.P.W.A. S.M.W.C., OR RIVERSIDE COUNTY.
- 16. ALL COMPACTION SHALL BE PERFORMED PER CITY STANDARDS.
- 17. EXCAVATION AND TRENCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE STATE CONSTRUCTION SAFETY ORDERS.
- 18. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC, AND HE SHALL HAVE CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAN HE CAN PROSECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC.
- 19. CONVENIENCE ACCESS TO DRIVEWAYS, HOUSES, AND BUILDINGS ALONG THE LINE OF WORK SHALL BE MAINTAINED, AND TEMPORARY CROSSING SHALL BE PROVIDED AND MAINTAINED IN GOOD CONDITION, NOT MORE THAN ONE CROSSING OR INTERSECTING STREET OR ROAD SHALL BE CLOSED AT ANY ONE TIME WITHOUT THE APPROVAL OF THE ENGINEER.
- 20. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUCH FENCES, BARRIERS DIRECTIONAL SIGNS. AND FLAGMEN AS ARE NECESSARY TO GIVE ADEQUATE WARNING TO THE PUBLIC AT ALL TIMES OF ANY DANGEROUS CONDITIONS TO BE ENCOUNTER AS A RESULT OF THE CONSTRUCTION WORK AND TO GIVE DIRECTIONS TO THE
- 21. THE CONTRACTOR SHALL EXERCISE DUE CARE TO AVOID INJURY TO THE EXTENDING IMPROVEMENTS OR FACILITIES. UTILITY FACILITIES. ADJACENT PROPERTY. TREES. AND SHRUBBERY THAT ARE NOT TO BE REMOVED. CONTRACTOR SHALL NOTIFY OSHA PRIOR TO ENTERING PROJECT SITE.
- 22. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK, AND THE CONTRACTOR SHALL FULLY COMPLY WITH ALL STATE AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDERS RELATING TO SAFETY TO THE PUBLIC AND WORKMEN.
- 23. ALL REMOVALS IN PAVED AREAS SHALL BE SAW CUT ON A NEAT, STRAIGHT LINE PARALLEL TO THE PIPELINE. THE CUT EDGE SHALL BE PROTECTED FROM CRUSHING AND ALL BROKEN EDGES SHALL BE RECUT PRIOR TO PAVING OPERATIONS.
- 24. CONTRACTOR SHALL BE REQUIRED TO PRESSURE TEST AGAINST TEST PLATE WHERE CONNECTING TO EXISTING SYSTEM OR TRACT.
- 25. BEFORE MAKING ANY EXCAVATION OR TRENCH 5' OR MORE IN DEPTH, CONTRACTOR SHALL SUBMIT TO S.G.P.W.A. A DETAILED DRAWING SHOWING THE DESIGN OF SHORING, BRACING, SLOPING, OR OTHER PROVISIONS TO BE MADE FOR WORKERS PROTECTION. DRAWINGS SHALL BE SPECIFIC AS TO WHERE THE DESIGN APPLIES (WHICH STATIONS), AND SHALL REFERENCE THE PROJECT SOILS REPORT. IF SAID DRAWINGS DO NOT VARY FROM THE REQUIREMENTS OF THE OSHA CONSTRUCTION SAFETY ORDERS, A STATEMENT SIGNED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER, ENGAGED BY CONTRACTOR AT HIS EXPENSE, SHALL BE SUBMITTED CERTIFYING THAT THE CONTRACTOR'S EXCAVATION SAFETY DRAWINGS COMPLY WITH THE OSHA CONSTRUCTION SAFETY ORDERS. IF SAID DRAWINGS VARY FROM SAID OSHA CONSTRUCTION SAFETY ORDERS, THE DRAWINGS SHALL BE PREPARED AND CERTIFIED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER AND SAID ENGINEER

SHALL AFFIX HIS SEAL AND SIGNATURE TO EACH SHEET OF SAID DRAWING.

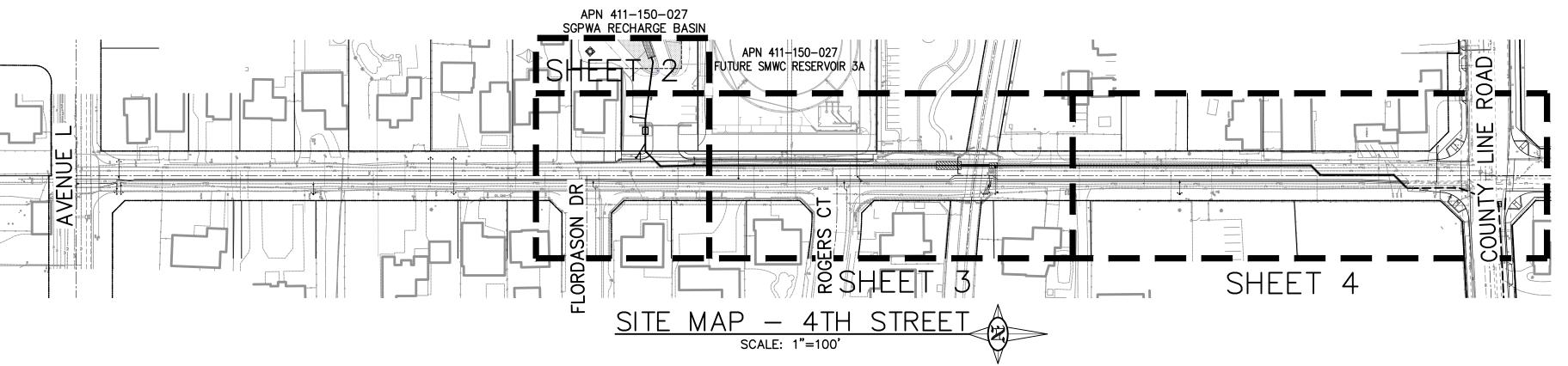
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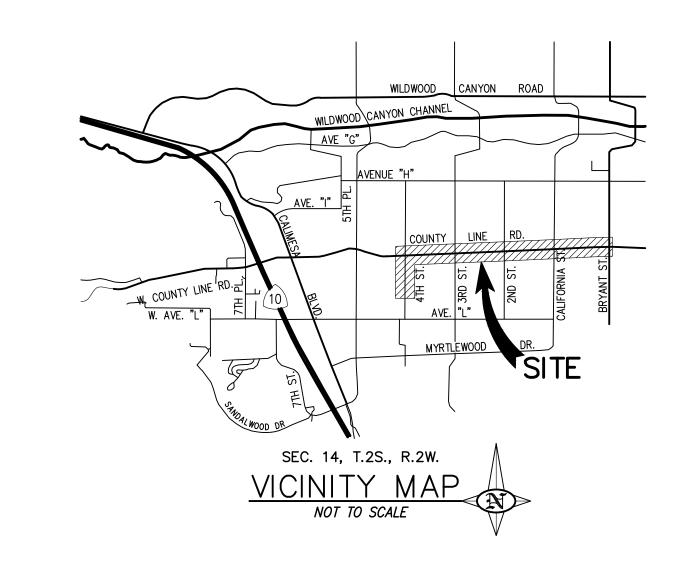
Underground Service Alert of Southern California CALL BEFORE YOU DIG





CITY OF CALIMESA, CALIFORNIA COUNTY LINE RECHARGE BASIN RAW WATERLINE EXTENSION AND REHABILITATION PLAN





CALIFORNIA BRYANT SITE MAP - COUNTY LINE ROAD

INDEX OF SHEETS

SHEET 1 TITLE SHEET, GENERAL & CONSTRUCTION NOTES ONSITE WATER PLAN STA. 8+52.71 TO STA. 10+00.93 SHEET 3 FOURTH STREET WATER PLAN STA. 10+00.93 TO STA. 15+00 SHEET 4 FOURTH STREET WATER PLAN STA. 15+00 TO STA. 20+15.66 SHEET 5 COUNTY LINE ROAD PIPELINE CONVERSION STA. 20+15.66 TO 32+00 SHEET 6 COUNTY LINE ROAD PIPELINE CONVERSION STA. 32+00 TO 45+00 COUNTY LINE ROAD PIPELINE CONVERSION STA. 45+00 TO 58+00 SHEET 8 COUNTY LINE ROAD PIPELINE CONVERSION STA. 58+00 TO 71+00 SHEET 9 COUNTY LINE ROAD PIPELINE CONVERSION STA. 71+00 TO 72+32.75

UTILITY VAULT AND PIPELINE CASING DETAILS

SURFACE REPAIR LEGEND:

- APPROX. LIMITS OF CALIMESA TRENCH REPAIR APPROX. LIMITS OF YUCAIPA TRENCH REPAIR APPROX. LIMITS OF CONCRETE REPAIR

UNDERGROUND STRUCTURES

ALL UNDERGROUND UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS AND THOSE SHOWN ON THE RECORDS EXAMINED ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXTENT. THE OWNER BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO AGREES TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED; NOT INDICATED ON THE PUBLIC RECORDS EXAMINED; LOCATED AT VARIANCE WITH THAT REPORTED OR SHOWN ON RECORDS EXAMINED. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.

CONTRACTORS STATEMENT

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY, THE OWNER, AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE

OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK

LEGEND:

- PROPOSED WATER MAIN ----OH---- - EX. OVERHEAD UTILITY SD - STORM DRAIN WATER SERVICE ----SS---- - EX. SEWER SERVICE INV - PIPE INVERT ----GS---- - EX. GAS SERVICE HYDRAULIC GRADE LINE AIR VACUUM VALVE - FIRE HYDRANT ----WS---- - EX. WATER SERVICE CFS - CUBIC FEET PER SECOND ----E---- - EX. UNDERGROUND UTILITY R/W - RIGHT OF WAY MH - EX. MAN HOLE PL - PROPERTY LINE ----- - EX. RIGHT-OF-WAY M/B - EX. MAIL BOX CL - CENTERLINE LT - LEFT OFFSET ----- - RECORD CENTERLINE - EX. SIGN PP - EX. POWER POLE RT - RIGHT OFFSET ------ - PROPERTY LINE ---- - EASEMENT LINE F.H. - FIRE HYDRANT EA. – EACH ---- - HYDRAULIC GRADE LINE (HGL) B.O. L.F. - LINEAR FEET ASPH - ASPHALT AIR VACUUM VALVE -8"S----O-- - EX. SEWERMAIN & SIZE NON-POTABLE WATER ---4"W---- - EX. WATERMAIN & SIZE CONC - CONCRETE

PROJECT PROPONENT

___12"SD__ - EX. STORM DRAIN & SIZE

SAN GORGONIO PASS WATER AGENCY 1210 BEAUMONT AVE. BEAUMONT, CA 92223 PH: (951) 845-2577 LECKHART@SGPWA.COM

ENGINEER

LAND ENGINEERING CONSULTANTS, INC. PO BOX 541, 650 AVENUE K CALIMESA, CA 92320 (909) 795-8882

LOCAL UTILITY COMPANIES:

WATER: SOUTH MESA WATER CO. 391 WEST AVENUE L CALIMESA, CA 92320 PH: 909) 795-2401

12270 2ND STREET

YUCAIPA, CA. 92399

PH: (909) 797-5117

YUCAIPA VALLEY WATER DIST.

SEWER:

THE EDISON CO. 287 TENNESSEE STREET REDLANDS, CA. 92373 PH:(909) 335-7191

<u>POWER:</u>

THE GAS COMPANY 1981 LUGONIA AVENUE REDLANDS, CA. 92373 PH: (909) 793-2725

TELEPHONE: VERIZON (FRONTIER) P.O. BOX 641 S.B., CA. 92401 PH: (909) 482-6711

CABLE: SPECTRUM 1722 ORANGE TREE LANE REDLANDS, CA. 92374

PH:(909) 798-6226

CONSTRUCTION NOTES

GREENBOOK SECTION 500-1.

ESTIMATED QUANTITIES

2 L.S.

1 EA.

2 EA.

1 EA.

571 L.F. (32 TONS AC)

359 L.F. (36 TONS AC)

34 L.F.

9 EA.

5 EA.

20 L.F.

1 EA.

456 S.F.

98 L.F.

57 L.F.

970 S.F. (11 TONS AC)

(1) JOIN EXISTING WATER MAIN. COORDINATE TO UTILIZE AS TEMPORARY CIPP LINING ACCESS LOCATION (4'X4' MIN. ACCESS PIT). (2) INSTALL 14" PVC C-900 DR-14 PIPE. BEDDING AND BACKFILL PER S.M.W.C. STD W-16. 1,065 L.F. (3) INSTALL 14" ELBOW WITH MEGALUG RESTRAINTS. NO PIPE JOINTS WITHIN 12 FEET OF 17 EA. FITTING. SEE PLAN FOR FITTING ANGLE AND DETAILS.

(4) INSTALL 14" BUTTERFLY VALVE PER S.M.W.C. STD. W-10 & W-11.

(5) INSTALL 6" DRY BARREL BLOW-OFF ASSEMBLY PER S.M.W.C. STD. W-7B. (6) INSTALL 4" DRY BARREL BLOW-OFF ASSEMBLY PER S.M.W.C. STD. W-7A. (7) INSTALL 2" AIR-VACUUM VALVE ASSY. PER S.M.W.C. STD W-8B.

(8) INSTALL PIPE BARRICADE PER S.M.W.C. STD. W-12. (9) BORE & JACK 30" CASING WITH 3' MINIMUM SEPARATION BELOW CHANNEL PER DETAILS ON SHEET 9. CONTRACTOR SHALL COMPLY WITH ALL NOTIFICATION, NPDES, AND MEANS & METHODS REQUIREMENTS PURSUANT TO RCFC&WCD ENCROACHMENT PERMIT NO. 5-0-00160-4240 (OBTAINED BY AGENCY).

(10A) REPAIR TRENCH FOR WATER MAINS AND APPURTENANCES PER CITY OF CALIMESA TRENCH AND EXCAVATION REPAIR STANDARD. MODIFIED TO 3" THICK AC PER SOILS ENGINEER RECOMMENDATIONS.

(10B) REPAIR TRENCH FOR WATER MAINS AND APPURTENANCES PER CITY OF CALIMESA TRENCH AND EXCAVATION REPAIR STANDARD. MODIFIED TO 3" THICK AC AND MODIFIED TO OMIT THE ONE FOOT T-CUT WHERE R&R IS TO OCCUR PER SEPARATE STREET IMPROVEMENT PLANS. PER SOILS ENGINEER RECOMMENDATIONS.

(11) INSTALL FLOW METER AND VAULT ASSEMBLY PER DETAIL ON SHEET 2.

1 EA. (12) INSTALL 14" WATERMAN INDUSTRIES F-25 MEDIUM DUTY DRAINAGE GATE, OR APPROVED EQUAL 1 EA. (13) rehabilitate existing 14" steel pipeline with cured-in-place pipe (cipp) lining per 5,060 L.F.

(14) INSTALL 6'LX4'WX5'H CONCRETE UTILITY VAULT AND MANHOLE WITH FLANGED CUT-IN PIPE SEGMENT PER DETAILS ON SHEET 9. COORDINATE TO UTILIZE AS PIPE REHABILITATION ACCESS LOCATION. ADJUST MANHOLE TO GRADE IN COORDINATION FINAL PAVING BY CITY.

(15) REMOVE EXISTING VALVE AND/OR FITTINGS AND REPLACE WITH 14" PVC C-900 DR-14 PIPE. JOIN EXISTING PIPELINE ON BOTH ENDS WITH PVC TO STEEL SLEEVES.

(16) REMOVE EXISTING 12" STEEL PIPELINE AND FITTINGS AND REPLACE WITH 14" PVC C-900 DR-14 PIPE. JOIN WITH PVC TO STEEL SLEEVES. LIMITS OF EXISTING 12" PIPELINE TO BE DETERMINED BY CONTRACTOR.

(17) RE-ESTABLISH EXISTING TEE SERVICE OPENING PER GREENBOOK SECTION 500-1.4.7.

(18) REPAIR TRENCH AND RESTORE PAVEMENT PER CITY OF YUCAIPA TRENCH REPAIR STD. DWG. 106-3. 4" MAX. REPAIR PAVING THICKNESS, OR AS DIRECTED BY ENGINEER.

(19) RESTORE EXISTING CONCRETE IN LIKE KIND. REMOVE AND REPLACE TO NEAREST JOINT. ROUNDABOUT MIX DESIGN AND COLOR PER CITY OF YUCAIPA.

PROTECT AND SUPPORT EXISTING UNDERGROUND UTILITY LOCATED LONGITUDINALLY WITHIN OR ADJACENT TO THE EXCAVATION TRENCH IN PLACE, PER UTILITY OWNER'S METHODS. COORDINATE WITH OWNER BEFORE EXCAVATION TO CONFIRM PROTECTION MEASURES.

(21) CUT AND REMOVE ABANDONED PIPELINE TO LIMITS OF TRENCH. PLUG ENDS AND DISPOSE CUT PIPE PER PROJECT SPECIFICATIONS.

Two Working Days Before You Dig DESIGNED BY: DRAWN BY:

PLAN PREPARED UNDER THE SUPERVISION OF:

STEVEN H. RITCHEY CR.C.E. 51129 DATE

LAND **ENGINEERING** CONSULTANTS, INC. O. BOX 541, 650 AVENUE K, CALIMESA, CALIFORNIA 92320 REV. BY PH: (909) 795 - 8882

REVISIONS APPR. DATE

BASIS OF BEARING: CALIFORNIA STATE PLANE COORDINATE SYSTEM, ZONE 5, NAD 83

<u>BENCH MARK:</u> <u>CITY OF YUCAIPA BM NO. 450</u> — AT SOUTHEAS CORNER OF BONITA & BRYANT ST. (DESTROYED ELEVATION = 2609.115' (NGVD 1929)TBM - CONCRETE NAIL SET IN THE TOP OF CURB ON THE WEST SIDE OF 4TH STREET AT

THE SOUTH END OF THE 4TH STREET

COMMUNITY PARK MARKED "JC RP"

ELEVATION = 2454.351'

SAN GORGONIO PASS WATER AGENCY BEAUMONT, CA 92223 (951) 845-22577

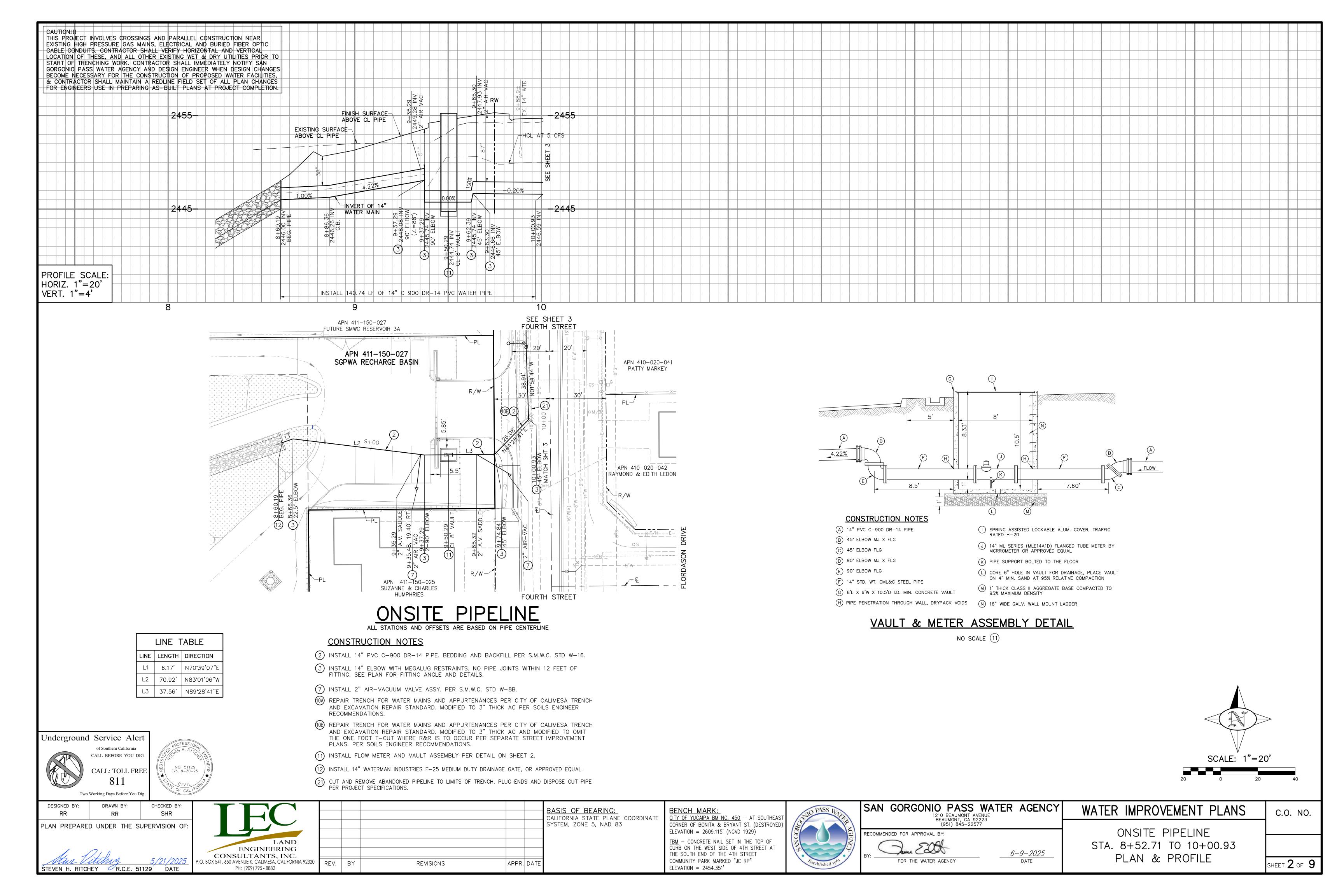
RECOMMENDED FOR APPROVAL BY: 6-9-2025 FOR THE WATER AGENCY DATE

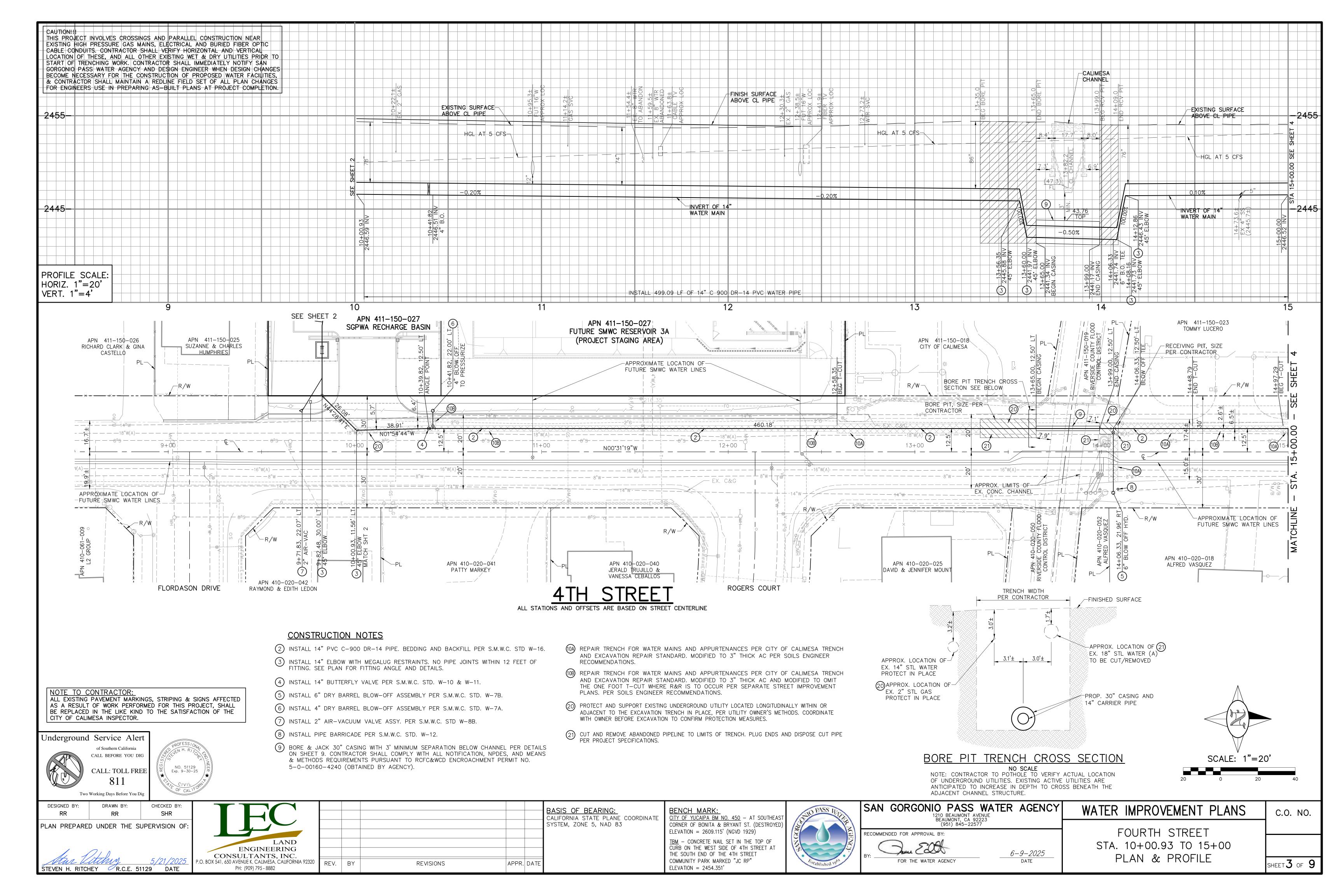
WATER IMPROVEMENT PLANS

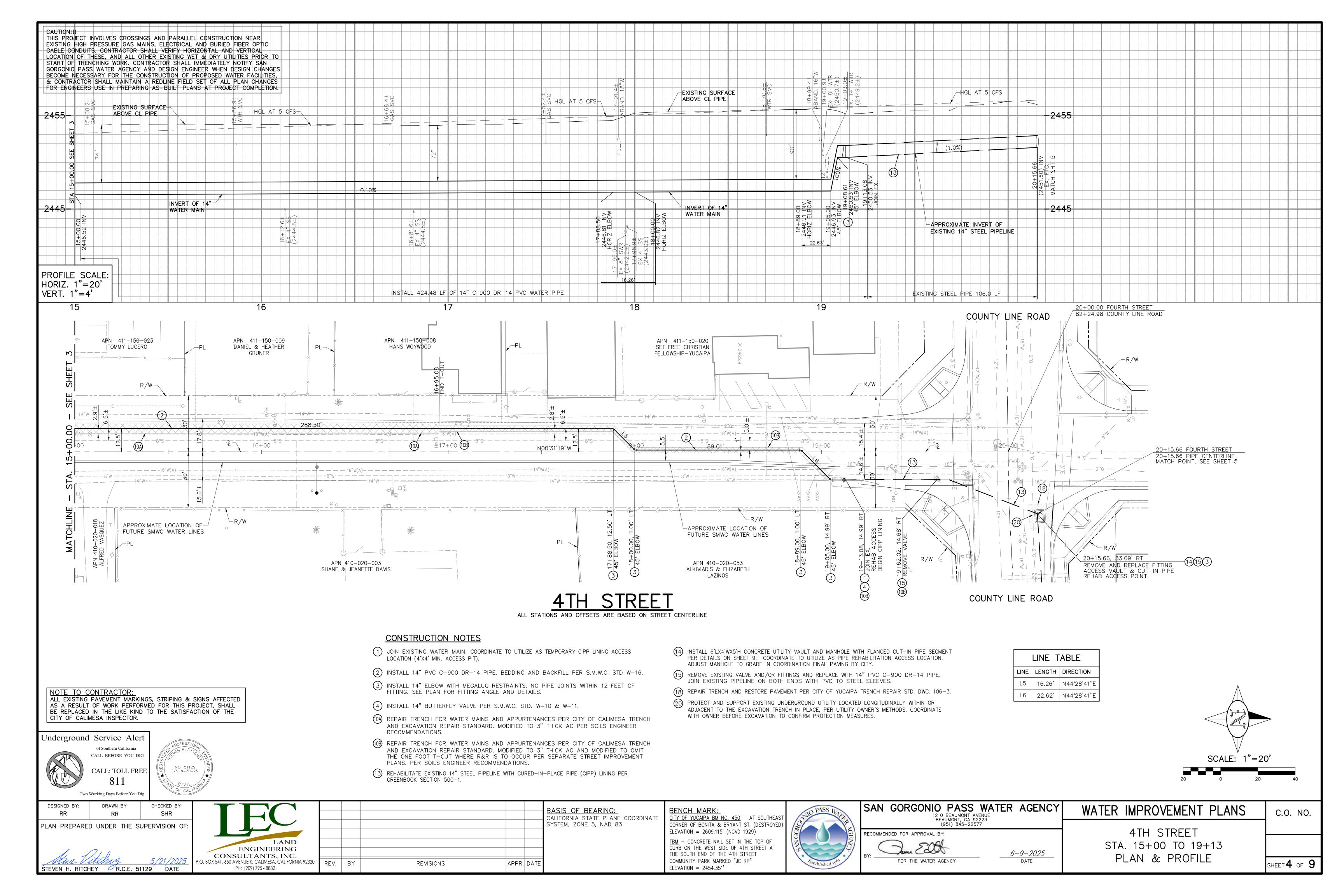
FOURTH STREET BETWEEN AVE. L & COUNTY LINE RD. TITLE SHEET

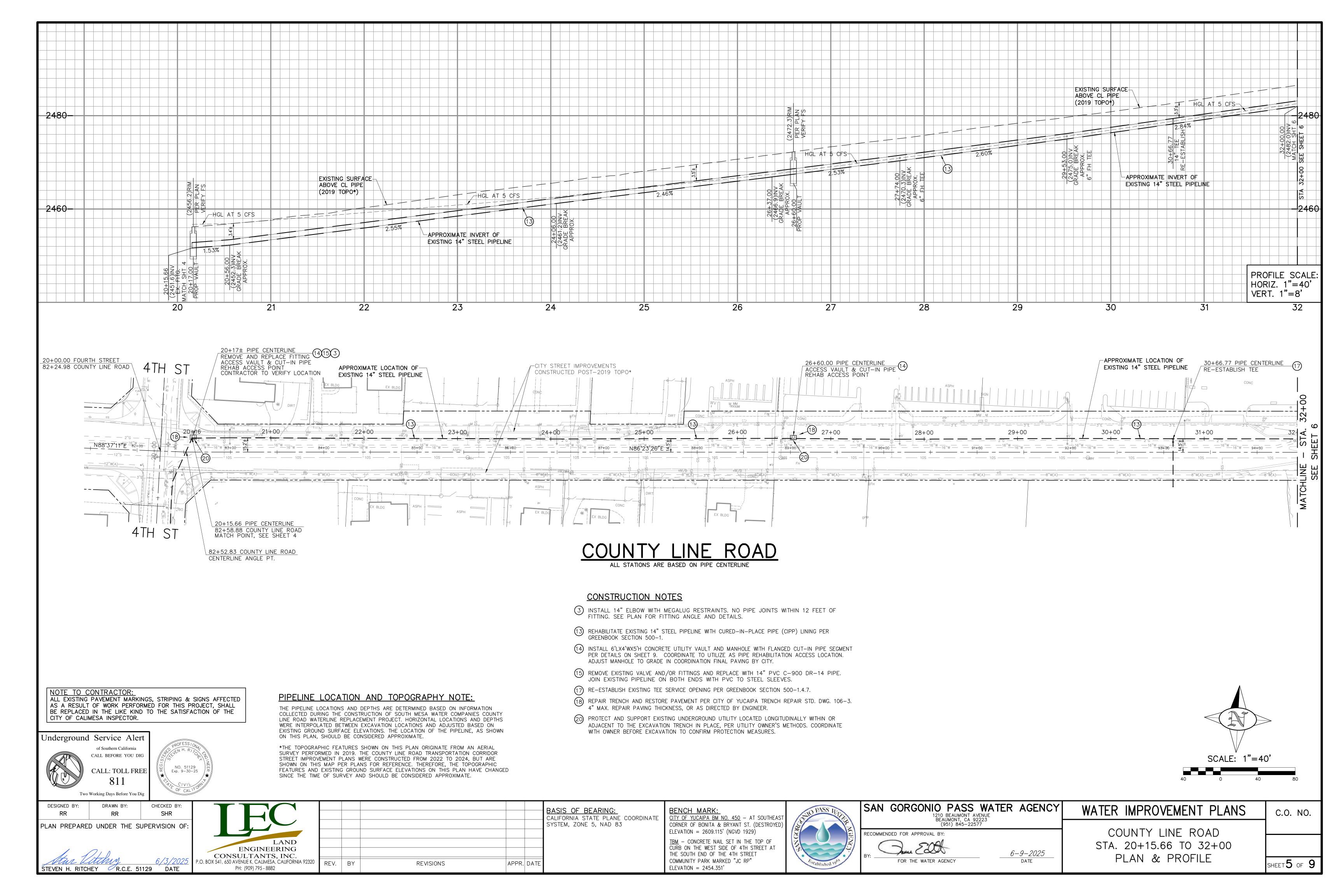
SHEET 1 OF 9

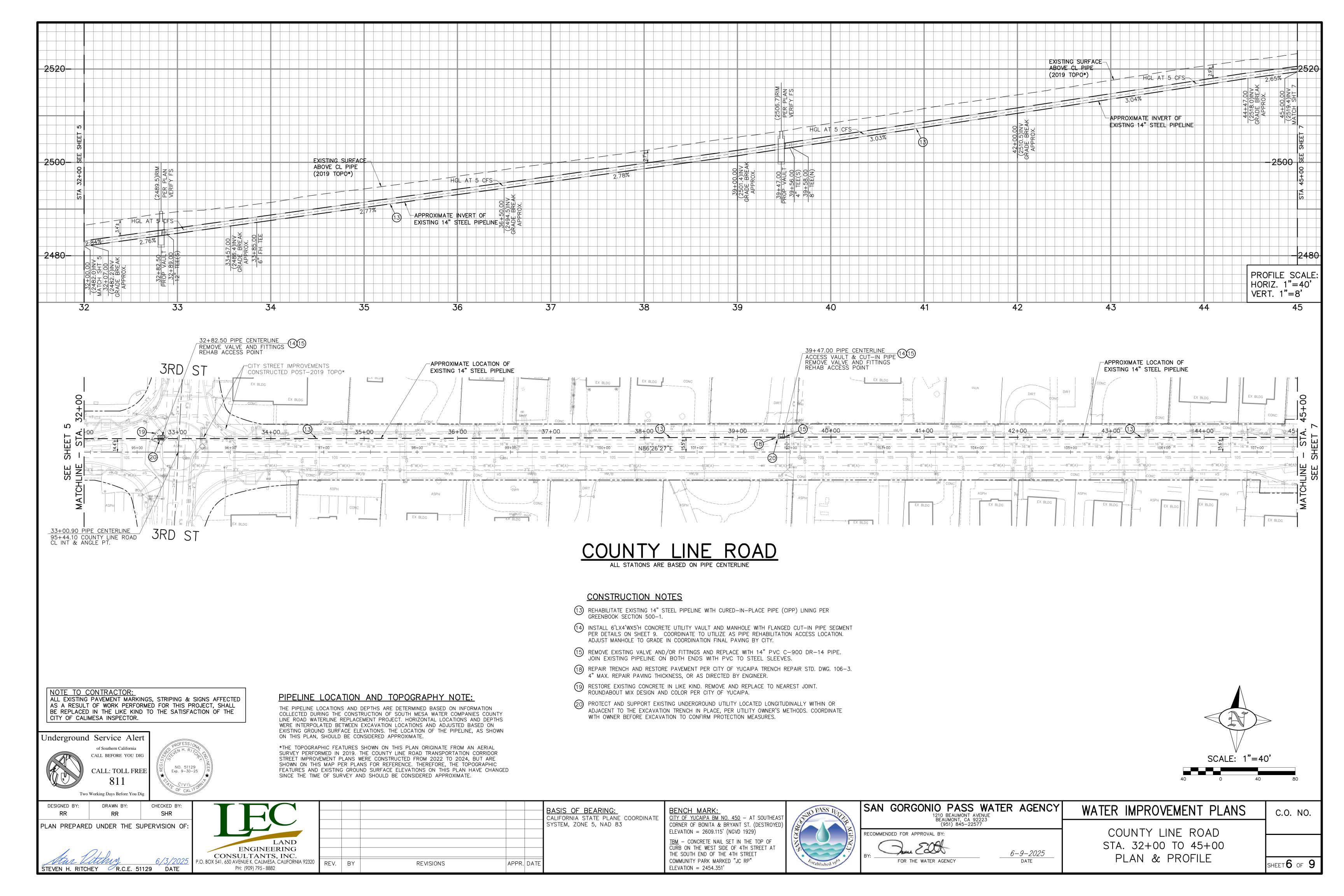
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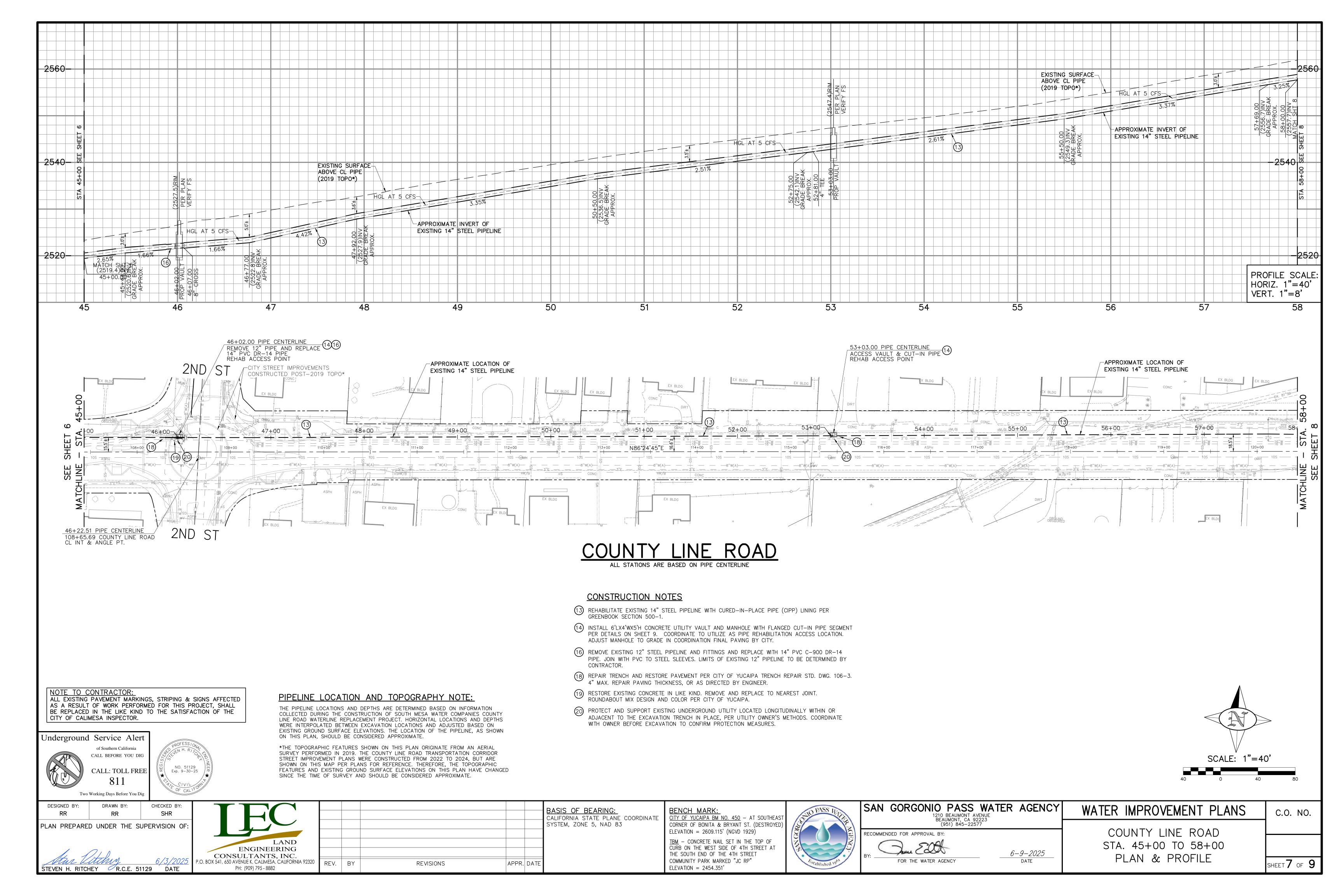


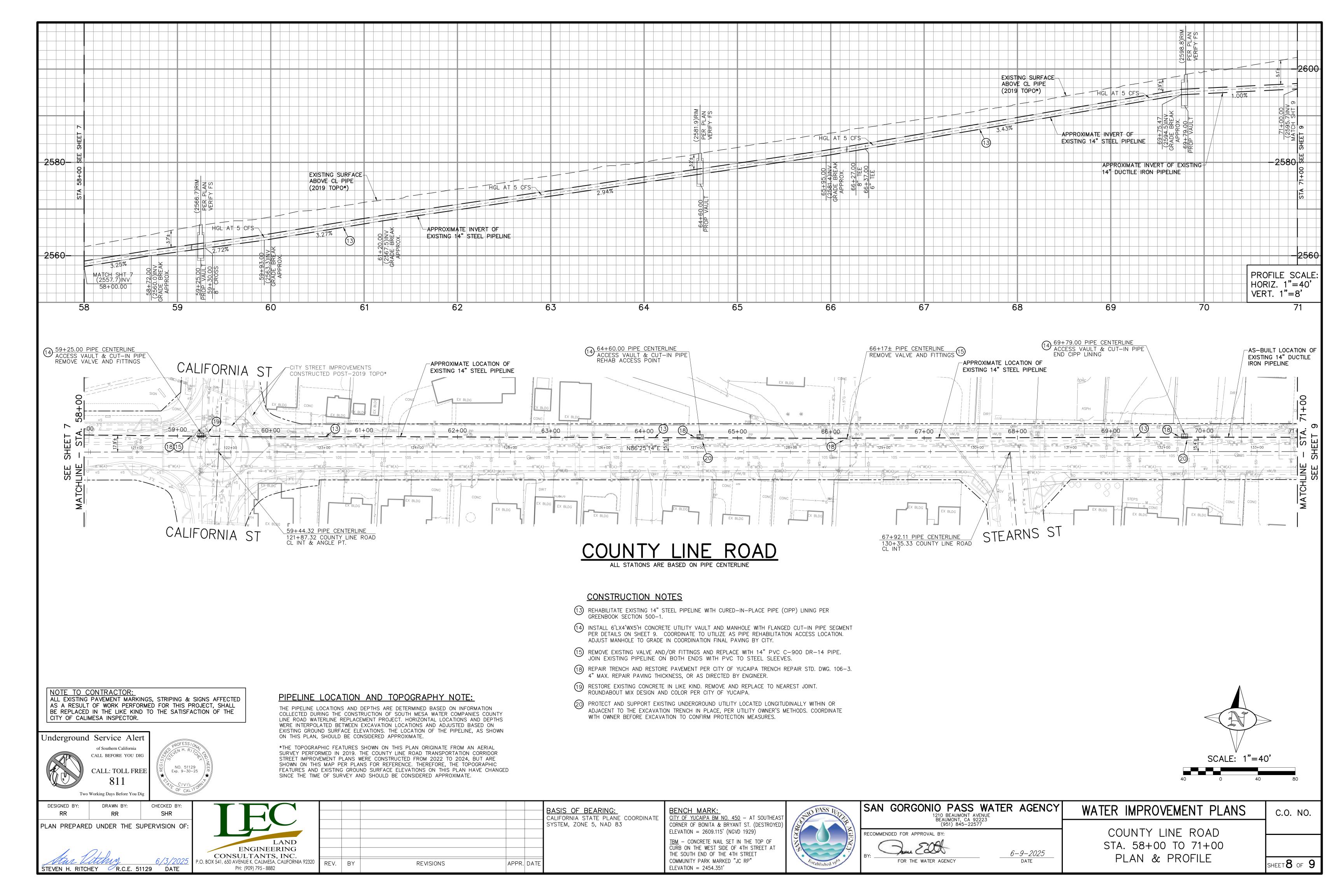


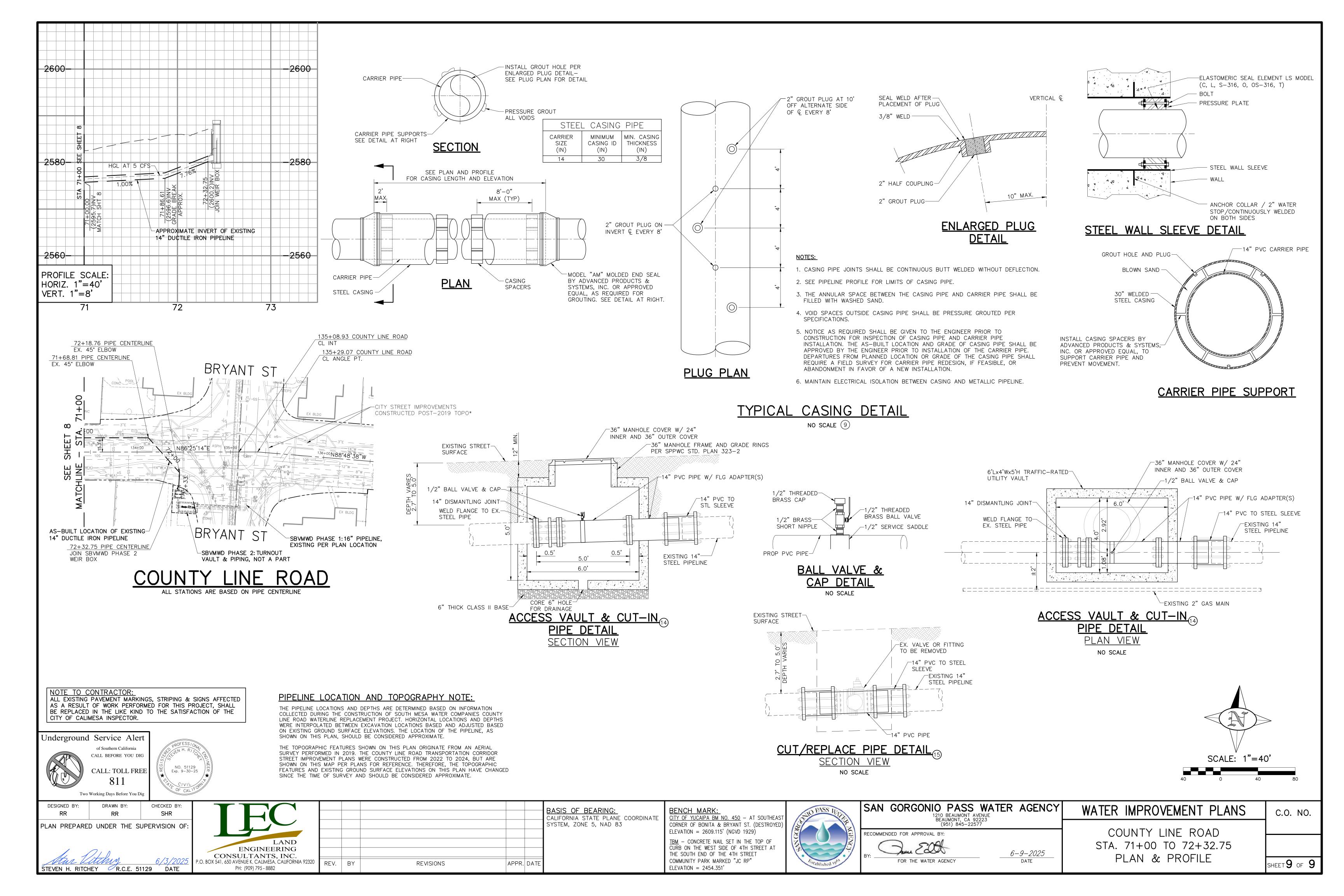












GENERAL NOTES

SERVICE LATERALS.

- MATERIALS AND INSTALLATION SHALL CONFORM TO THE SOUTH MESA WATER COMPANY STANDARDS (LATEST REVISION THEREOF), HEREIN KNOWN AS "WATER
- WATER MAINS SHALL BE 8" MINIMUM PVC C-900 DR-14, OR 8" MINIMUM DUCTILE IRON PIPE (D.I.P.) CL-350, O-RING BELL AND SPIGOT TYPE. SIZE OF MAINS SHALL BE DETERMINED BY S.M.W.C., AS SHOWN ON THESE PLANS.
- 3. ALL SERVICE CONNECTIONS TO BE 1-1/4 INCH (COPPER TUBE SIZE) MUNICIPEX (PEX) TUBING (AWWA C-904 COMPLIANT) & PLACE 14 GA COATED TRACER WIRE. NOTÉ: ALL SERVICES REQUIRING EXTENSIÓN OR REPLACEMENT SHALL BE INSTALLED FROM THE MAIN TO THE METER. METERS ARE TO BE SET BY S.M.W.C.
- 4. STANDARD WATER MAIN LOCATION IS 7 FEET OFF CURB FACE (SOUTH AND WEST OF CENTERLINE, UNLESS OTHERWISE NOTED).
- . S.M.W.C. SHALL MAKE ALL WATER MAIN CONNECTIONS TO EXISTING WATERMAINS, UNLESS OTHERWISE NOTED. WORK TO BE PERFORMED, TIME AND MATERIAL, ARE AT THE DEVELOPERS EXPENSE.
- 6. HYDRO-TEST TO 200 P.S.I. MIN. 2 HOURS DURATION AT LOWEST POINT TO THE
- 7. GATE VALVES TO BE MUELLER (BBM BODY, BRASS MOUNTED NON—RISING STEM, RESILIENT WEDGE) FLANGED ENDS, PER S.M.W.C. STANDARDS.
- 8. CONTRACTOR SHALL USE DOUBLE STRAP SERVICE CLAMPS WHEN CONNECTING
- 9. CONTRACTOR SHALL NOTIFY S.M.W.C. 48 HOURS PRIOR TO SHUTDOWN OF WATER MAINS AND/OR INSPECTIONS.
- 10. INSTALLATION SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS AND LATEST S.M.W.C. SPECIFICATIONS AND/OR AS DIRECTED BY THE ENGINEER.
- 11. METER BOX ASSEMBLY SHALL BE J&R CONCRETE PRODUCTS MODEL P-W6B SPECIAL SERIES CONCRETE (22"Wx34"Lx12"D) BOX 1/1-PC POLYMER CONCRETE COVER & LID (CONTRACTOR SUPPLIED), UNLESS OTHÉRWISE NOTED
- 12. PROVIDE A MINIMUM OF 10 FEET HORIZONTAL SEPARATION, OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN SEWER AND WATER MAINS. DISTANCES CLOSER REQUIRE HEALTH DEPT. APPROVAL.
- 13. BACK FILL COMPACTION AND RESURFACING IN EXISTING STREETS SHALL CONFORM TO S.M.W.C STD. W-16, AND CITY OF YUCAIPA STREET DIVISION SPECIFICATIONS (LATEST REVISION THEREOF).
- 14. ALL VALVES INSTALLED BY THE CONTRACTOR SHALL BE ACCESSIBLE FOR OPERATION WITH COMPLETE VALVE BOX TO GRADE DIRECTLY FOLLOWING CONNECTION TO EXISTING WATER SYSTEM AS APPROVED BY S.M.W.C.
- 15. SAND SHALL BE USED FOR BEDDING AND BACKFILL TO A DEPTH OF 12 INCHES ABOVE PIPE, AS DIRECTED BY S.M.W.C. (INSTALL 2 INCH WIDE ALAMATAPE, 1 FOOT ABOVE PIPE). SEE S.M.W.C. STD. DWG W-14.
- 16. FIRE HYDRANTS SHALL CONFORM TO THE S.M.W.C. STD. DWG W-6 AND SHALL BE 6 INCH, 3-WAY WITH (2) 2-1/2 INCH AND (1) 4 INCH OUTLET, HYDRANT SHALL BE DRY BARREL MUELLER SUPER CENTURIAN 250 MODEL 423,5-1/4" MAIN VALVE, WITH 6" M.J. SHOE INLET.
- 17. COMBINATION AIR/VACUUM RELEASE VALVES SHALL BE AT LEAST 1 INCH IN SIZE, AND SHALL BE CRISPIN, STAINLESS STEEL TRIM PER S.M.W.C. STANDARDS.
- 18. WATER MAIN SHALL HAVE A MINIMUM COVER OF 42" FROM THE TOP OF THE PIPE.
- 19. RESTRAINED JOINTS SHALL BE USED AT ALL ANGLE FITTINGS, TEES, ELBOWS AND DEAD ENDS.
- 20. APPROVAL BY S.M.W.C. OF ANY PROPOSED CONNECTIONS TO AN EXISTING S.M.W.C. FACILITY DOES NOT IMPLY APPROVAL OF THE CORRECTNESS OF THE ELEVATIONS SHOWN ON THESE PLANS.
- 21. THE ESTIMATED QUANTITY FOR EACH SPECIFIC ITEM OF THE WORK DESIGNATED ON THE PLANS SHALL BE CONSIDERED AS APPROXIMATE ONLY AND NO GUARANTEE IS MADE THAT THE QUANTITIES WHICH CAN BE DETERMINED BY COMPUTATIONS, BASED ON THE DETAILS AND THE DIMENSIONS SHOWN ON THE PLANS, WILL EQUAL THE ESTIMATED QUANTITIES. THE ESTIMATE OF QUANTITIES IS PROVIDED BY THE ENGINEER ONLY FOR THE CONVENIENCE OF THE OWNER. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AND BE RESPONSIBLE FOR HIS OWN CONSTRUCTION QUANTITIES BEFORE SUBMITTING A BID. ANY ITEM OF WORK, OR PORTION THEREOF, REQUIRED BY THESE PLANS WHICH IS NOT SPECIFICALLY LISTED IN THE ESTIMATE OF QUANTITIES SHALL BE CONSIDERED AS INCLUDED IN THE OTHER ITEMS OF WORK.
- 22. ALL WATER SERVICE INSTALLATIONS SHALL BE EXTENDED BEHIND FUTURE CURB LOCATION PER S.M.W.C. STANDARDS.
- 23. THE CONTRACTOR IS ADVISED THAT THE WORK ON THIS PROJECT MAY INVOLVE WORKING IN A CONFINED SPACE. CONTRACTOR SHALL BE RESPONSIBLE FOR "CONFINED AIR SPACE" ARTICLE 108 TITLE 8 CALIFORNIA ADMINISTRATIVE CODE.
- 24. ALL PIPELINES OR SUBSTRUCTURES OF ANY KIND NOT SHOWN ON THESE PLANS LYING WITHIN THE AREA OF IMPROVEMENT SHALL BE REMOVED, RELOCATED, OR REINFORCED TO THE SATISFACTION OF THE CITY ENGINEER AND THE COMPANY OWNING THE FACILITY AT NO EXPENSE TO THE CITY OF YUCAIPA, THE S.M.W.C., OR THE COUNTY OF SAN BERNARDINO.
- 25. ALL COMPACTION SHALL BE PERFORMED PER CITY STANDARDS.
- 26. EXCAVATION AND TRENCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE STATE CONSTRUCTION SAFETY ORDERS.
- 27. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC. AND HE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAN HE CAN PROSECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC.
- 28. CONVENIENCE ACCESS TO DRIVEWAYS, HOUSES, AND BUILDINGS ALONG THE LINE OF WORK SHALL BE MAINTAINED, AND TEMPORARY CROSSING SHALL BE PROVIDED AND MAINTAINED IN GOOD CONDITION, NOT MORE THAN ONE CROSSING OR INTERSECTING STREET OR ROAD SHALL BE CLOSED AT ANY ONE TIME WITHOUT THE APPROVAL OF THE ENGINEER.
- 29. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUCH FENCES, BARRIERS, DIRECTIONAL SIGNS, AND FLAGMEN AS ARE NECESSARY TO GIVE ADEQUATE WARNING TO THE PUBLIC AT ALL TIMES OF ANY DANGEROUS CONDITIONS TO BE ENCOUNTER AS A RESULT OF THE CONSTRUCTION WORK AND TO GIVE DIRECTIONS TO THE PUBLIC.

Underground Service Alert of Southern California CALL BEFORE YOU DIG



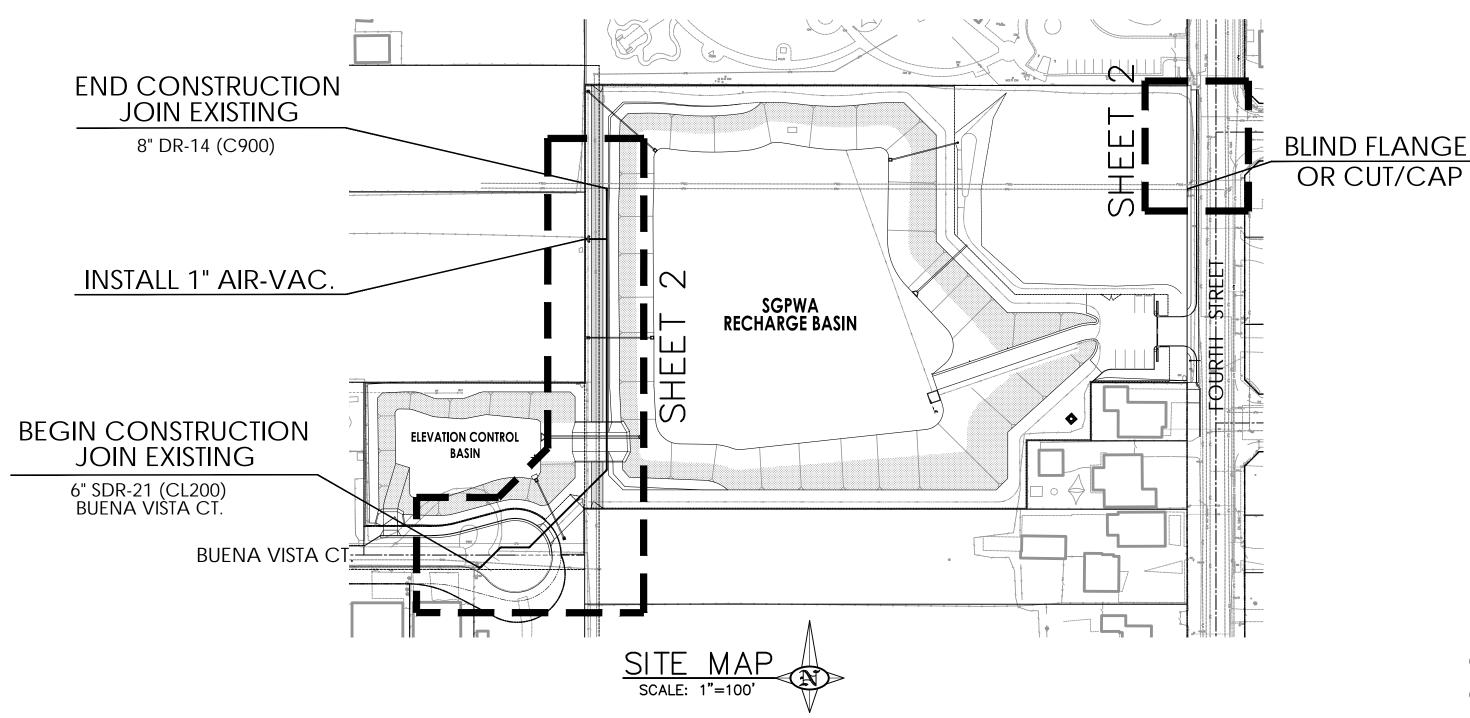
DESIGNED BY:



CHECKED BY:

CITY OF CALIMESA, CALIFORNIA POTABLE WATERLINE PLAN COUNTY LINE RECHARGE BASIN

BUENA VISTA TO 5TH ST. LOOPING CONNECTION



GENERAL NOTES (CONT'D)

- 30. THE CONTRACTOR SHALL EXERCISE DUE CARE TO AVOID INJURY TO THE EXTENDING IMPROVEMENTS OR FACILITIES, UTILITY FACILITIES, ADJACENT PROPERTY, TREES, AND SHRUBBERY THAT ARE NOT TO BE REMOVED. CONTRACTOR SHALL NOTIFY OSHA PRIOR TO ENTERING PROJECT SITE.
- 31. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK, AND THE CONTRACTOR SHALL FULLY COMPLY WITH ALL STATE AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDERS RELATING TO SAFETY TO THE PUBLIC AND WORKMEN.
- 32. ALL REMOVALS IN PAVED AREAS SHALL BE SAW CUT ON A NEAT, STRAIGHT LINE PARALLEL TO THE PIPELINE. THE CUT EDGE SHALL BE PROTECTED FROM CRUSHING AND ALL BROKEN EDGES SHALL BE RECUT PRIOR TO PAVING OPERATIONS.
- 33. CONTRACTOR SHALL BE REQUIRED TO PRESSURE TEST AGAINST TEST PLATE WHERE CONNECTING TO EXISTING SYSTEM OR TRACT.
- 34. BEFORE MAKING ANY EXCAVATION OR TRENCH 5' OR MORE IN DEPTH, CONTRACTOR SHALL SUBMIT TO S.M.W.C. A DETAILED DRAWING SHOWING THE DESIGN OF SHORING, BRACING, SLOPING, OR OTHER PROVISIONS TO BE MADE FOR WORKERS PROTECTION. DRAWINGS SHALL BE SPECIFIC AS TO WHERE THE DESIGN APPLIES (WHICH STATIONS), AND SHALL REFERENCE THE PROJECT SOILS REPORT. IF SAID DRAWINGS DO NOT VARY FROM THE REQUIREMENTS OF THE OSHA CONSTRUCTION SAFETY ORDERS, A STATEMENT SIGNED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER, ENGAGED BY CONTRACTOR AT HIS EXPENSE. SHALL BE SUBMITTED CERTIFYING THAT THE CONTRACTOR'S EXCAVATION SAFETY DRAWINGS COMPLY WITH THE OSHA CONSTRUCTION SAFETY ORDERS. IF SAID DRAWINGS VARY FROM SAID OSHA CONSTRUCTION SAFETY ORDERS, THE DRAWINGS SHALL BE PREPARED AND CERTIFIED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER AND SAID ENGINEER SHALL AFFIX HIS SEAL AND SIGNATURE TO EACH SHEET OF SAID DRAWING.

UNDERGROUND STRUCTURES

ALL UNDERGROUND UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS AND THOSE SHOWN ON THE RECORDS EXAMINED ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXTENT. THE OWNER BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO AGREES TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED; NOT INDICATED ON THE PUBLIC RECORDS EXAMINED; LOCATED AT VARIANCE WITH THAT REPORTED OR SHOWN ON RECORDS EXAMINED. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.

CONTRACTORS STATEMENT

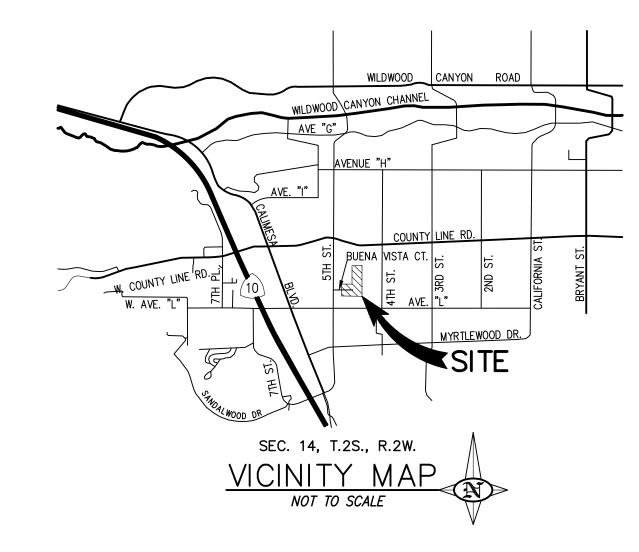
CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY, THE OWNER, AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.

INDEX OF SHEETS

SHEET 1 TITLE SHEET, GENERAL & CONSTRUCTION NOTES SHEET 2 PLAN AND PROFILE

LEGEND:

	- PROPOSED WATER MAIN		- EXISTING WATER SERVICE
	- WATER SERVICE	МН	- EXISTING MAN HOLE
$\!$	- AIR VACUUM VALVE	M/B	- EXISTING MAIL BOX
•	- FIRE HYDRANT	A.V.	- AIR VACUUM VALVE
○	- BLOW-OFF ASSY.	B.O.	- BLOW-OFF
	- GATE VALVE	PL	- PROPERTY LINE
	- EXISTING RIGHT-OF-WAY	CL	- CENTER LINE
	- RECORD CENTERLINE OF STREET	R/W	- RIGHT OF WAY
-8"SO	- EXISTING SEWERMAIN & SIZE	GB	- GRADE BREAK
W	- EXISTING WATERMAIN & SIZE	LT	- LEFT
12"SD	- EXISTING STORM DRAIN	LS	- LUMP SUM
~~~~~	- EXISTING OVERHEAD ELEC/TEL/COMM	L.F.	- LINEAR FEET
	- EXISTING UNDER-GROUND ELEC/TEL/COMM	η EA.	- EACH
SS	- EXISTING SEWER SERVICE	ASPH	- ASPHALT
GS	- EXISTING GAS SERVICE	CONC	- CONCRETE



#### **CONSTRUCTION NOTES** ESTIMATED QUANTITIES (1) JOIN EXISTING WATER MAIN. SEE PLAN NOTES AT TIE-IN LOCATIONS 2 EA. (2) INSTALL 8" PVC C-900 DR-14 PIPE, BEDDING, BACKFILL PER SMWC STD. W-14 469 L.F. (3) INSTALL 8"X6" REDUCER 1 EA. (4) INSTALL 8" 90° ELBOW 1 EA. (5) INSTALL 8" 45° ELBOW 4 EA. (6) INSTALL 8" GATE VALVE PER S.M.W.C. STD. W-9 & W-11 2 EA. (7) INSTALL 1" AIR-VACUUM VALVE ASSEMBLY PER S.M.W.C. STD W-8A. 1 EA. 8 INSTALL PIPE BARRICADE PER S.M.W.C. STD. W-12. (9) INSTALL THRUST BLOCK PER S.M.W.C. STD. W-17. 6 EA.

#### **LOCAL UTILITY COMPANIES:**

WATER: SOUTH MESA WATER CO. 391 WEST AVENUE L CALIMESA, CA 92320 PH: 909) 795-2401	POWER: THE EDISON CO. 287 TENNESSEE STREET REDLANDS, CA. 92373 PH: (909) 335-7191	TELEPHONE: VERIZON (FRONTIER) P.O. BOX 641 S.B., CA. 92401 PH: (909) 482-6711
SEWER: YUCAIPA VALLEY WATER DIST. 12270 2ND STREET YUCAIPA, CA. 92399 PH: (909) 797-5117	CAS: THE GAS COMPANY 1981 LUGONIA AVENUE REDLANDS, CA. 92373 PH: (909) 793-2725	CABLE: TIME WARNER (SPECTRUM) 1722 ORANGE TREE LANE REDLANDS, CA. 92374 PH: (909) 798-6226

(10) ABANDON EXISTING WATERMAIN IN PLACE PER S.M.W.C. & GREENBOOK STD'S. INSTALL

BLIND FLANGE OR CUT AND CAP WEST OF HYDRANT TEE.

PROJECT PROPONENT SAN GORGONIA PASS WATER AGENCY 1210 BEAUMONT AVE. BEAUMONT, CA 92223 PH: (951) 845-2577

LECKHART@SGPWA.COM

#### **ENGINEER** LAND ENGINEERING CONSULTANTS, INC. PO BOX 541, 650 AVENUE K

CALIMESA, CA 92320

(909) 795-8882

1 EA.

SHR PLAN PREPARED UNDER THE SUPERVISION OF:

DRAWN BY:

STEVEN H. RITCHEY CR.C.E. 51129 DATE

LAND **ENGINEERING** CONSULTANTS, INC. P.O. BOX 541, 650 AVENUE K, CALIMESA, CALIFORNIA 92320 PH: (909) 795 - 8882

REV. BY

APPR. DATE REVISIONS

BASIS OF BEARING: CALIFORNIA STATE PLANE COORDINATE SYSTEM, ZONE 5, NAD 83

**BENCH MARK:** CITY OF YUCAIPA BM NO. 450 LOCATED AT SOUTHEAST CORNER OF BONITA & BRYANT ST. 52.5 FT. EAST OF BRYANT, 18 FT. SOUTH OF BONITA, 150 FT. NORTH OF COUNTY LINE RD., 0.5 FT. EAST OF EAST CURB RETURN. ELEVATION = 2609.115

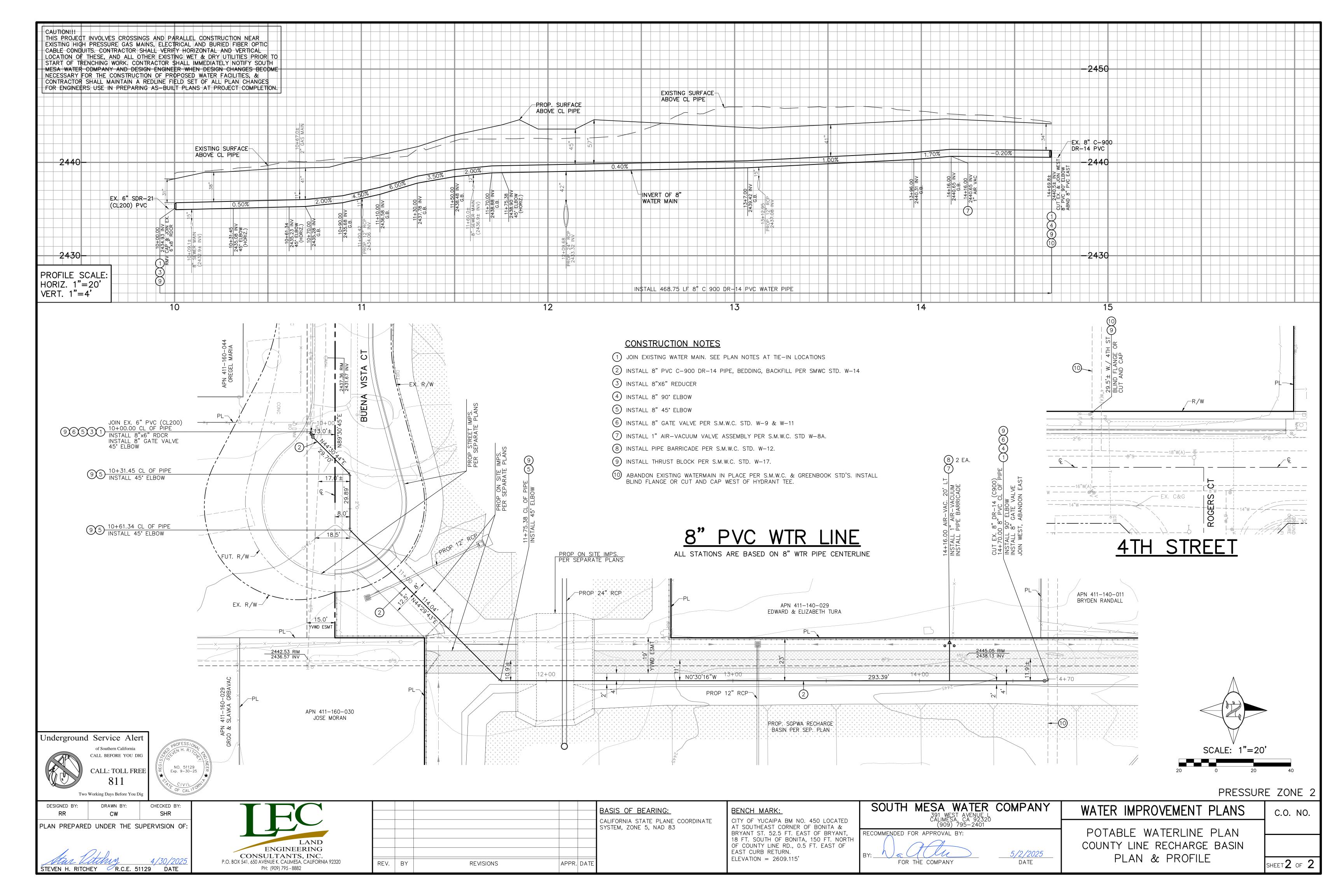
RECOMMENDED FOR APPROVAL BY: 5/2/2025 FOR THE COMPANY

SOUTH MESA WATER COMPANY

PRESSURE ZONE 2 WATER IMPROVEMENT PLANS C.O. NO.

POTABLE WATERLINE PLAN COUNTY LINE RECHARGE BASIN TITLE SHEET

SHEET **1** OF **2** 



#### **GENERAL NOTES:**

- ALL WORK CALLED FOR ON THE PLANS SHALL COMPLY WITH CURRENT CITY OF CALIMESA STANDARDS AND SPECIFICATIONS, ADOPTED BY CITY COUNCIL, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS FOR THIS PROJECT.
- 2. THE CONTRACTOR, BEFORE UNDERTAKING ANY GRADING OR CONSTRUCTION WORK OF ANY TYPE WITHIN THE PUBLIC RIGHT OF WAY MUST FIRST OBTAIN AN ENCROACHMENT PERMIT FROM THE PUBLIC WORKS DEPARTMENT. THE CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR A MINIMUM OF 48 HOURS PRIOR TO COMMENCING ANY WORK.
- 3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER TO INSTALL AND MAINTAIN ALL CONSTRUCTION, REGULATORY, GUIDE AND WARNING SIGNS WITHIN THE PROJECT LIMITS AND ITS SURROUNDINGS TO PROVIDE SAFE PASSAGE FOR THE TRAVELING PUBLIC AND WORKERS UNTIL THE FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT BY THE CITY. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO OBTAINING AN ENCROACHMENT PERMIT.
- INSPECTION BY THE CITY OF THE WORK CALLED FOR ON THE PLANS DOES NOT, IN ANY WAY, RELIEVE THE CONTRACTOR AND/OR DEVELOPER OF THEIR OBLIGATION TO PERFORM WORK IN COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.
- 5. REQUESTS FOR DEVIATIONS FROM THE APPROVED PLANS, (EXCEPT MINOR ADJUSTMENTS IN THE FIELD TO MEET EXISTING CONDITIONS), SHALL BE MADE IN WRITING AND ARE NOT TO BE INITIATED UNLESS OR UNTIL THEY ARE APPROVED BY THE PUBLIC WORKS DIRECTOR OR A REPRESENTATIVE ACTING SPEC OFFICIALLY UPON HIS INSTRUCTIONS
- 6. QUANTITIES, AS SHOWN ON THE PLANS ARE ESTIMATED, AND THE CONTRACTOR IS ADVISED THAT FINAL QUANTITIES OF MATERIAL AND WORK IN PLACE MAY BE MORE OR LESS THAN THOSE INDICATED ON THE PLANS.
- 7. THE CONTRACTOR SHALL OPERATE IN A MANNER COMPLIANT WITH ALL APPLICABLE SECTIONS OF THE MUNICIPAL CODE AND COMPLIANT WITH ALL APPLICABLE CITY COUNCIL RESOLUTIONS.
- 8. THE CONTRACTOR SHALL REPLACE IN KIND, TO THE SATISFACTION OF THE CITY ENGINEER, ANY PAVING, CURB AND GUTTER OR OTHER IMPROVEMENTS CUT, REMOVED, OR DAMAGED IN CONJUNCTION WITH THIS PROJECT.
- 9. PARKWAY TREES, INSTALLED BY THE DEVELOPER, SHALL BE PLANTED AND MAINTAINED IN ACCORDANCE WITH CITY OF CALIMESA STANDARDS.
- 10. THE DEVELOPER WILL INSTALL ALL STREET NAME AND TRAFFIC REGULATORY SIGNS INDICATED ON THE PLANS, PER CITY STANDARDS.

11. STREET LIGHTS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED STREET LIGHTING

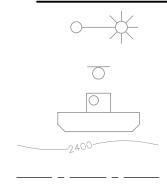
- 12. ALL WATER VALVES AND SEWER MANHOLES SHALL REMAIN ACCESSIBLE AND FREE OF DEBRIS THROUGHOUT ALL PHASES OF THE PROJECT.
- 13. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER TO NOTIFY THE ENGINEER TO INSTALL STREET CENTERLINE MONUMENTS AS REQUIRED BY THE CITY (TRACTS AND PARCEL MAPS ONLY). ALL EXISTING SURVEY MONUMENTS SHALL BE PROTECTED IN PLACE OR RELOCATED BY A LICENSED PROFESSIONAL PRIOR TO CONSTRUCTION.
- 14. ALL UNDERGROUND FACILITIES, WITH LATERALS, SHALL BE IN PLACE PRIOR TO PAVING THE STREET, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: SEWER, WATER, ELECTRIC, GAS, STORM DRAINS.
- 15. THE CONTRACTOR SHALL POSSESS A VALID STATE CONTRACTOR 'S LICENSE AND HE AND HIS SUBCONTRACTORS SHALL BE REQUIRED TO POSSESS A VALID CITY BUSINESS LICENSE WHILE PERFORMING WORK ON THE PROJECT.
- 16. THE CONTRACTOR SHALL ADJUST ALL UTILITY VALVE BOXES, MANHOLES, ETC. TO GRADE UPON COMPLETION OF PAVING.
- 17. THE CONTRACTOR SHALL ENACT ALL MEASURES TO PROTECT AND SAFEGUARD WORKERS AND THE GENERAL PUBLIC FROM INJURY DURING THE ENTIRE TIME OF CONSTRUCTION; MAINTAIN THE JOB SITE IN AN ORDERLY, CLEAN MANNER THROUGHOUT THE COURSE OF WORK AND NOT BLOCK LEGAL EXITS AND ENTRANCES: LEAVE WORK AREAS CLEAN. FREE OF DEBRIS AT THE END OF EACH DAY; COMPLY WITH ALL APPLICABLE CODES.

#### **SURVEY MONUMENT NOTE:**

SURVEY MONUMENTS THAT EXIST AS SHOWN ON RECORDED MAPS. HIGHWAY MAPS. OR POINTS THAT PROVIDE SURVEY CONTROL WITHIN THE CONSTRUCTION AREA. SHALL BE LOCATED AND REFERENCED BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER (AUTHORIZED TO PRACTICE LAND SURVEYING). BEFORE THE START OF CONSTRUCTION CORNER RECORDS SHOULD BE FILED WITH THE COUNTY SURVEYOR. THESE CORNER RECORDS SHALL DESCRIBE THE MONUMENT FOUND WITH TIE DISTANCES TO REFERENCE POINTS FOR THE RESETTING OF A SURVEY MONUMENT. WHEN CONSTRUCTION IS COMPLETED, ANY DISTURBED MONUMENTS SHALL BE REPLACED AND CORNER RECORDS SHALL BE FILED WITH THE COUNTY SURVEYORS SHOWING THE NEW MONUMENTS.

CITY OF CALIMESA WILL RESET DISTURBED SURVEY MONUMENTS ASSOCIATED WITH CONSTRUCTION WITHIN FOURTH STREET. CONTRACTOR SHALL COORDINATE SUCCESSFUL REPLACEMENT THROUGH THE CITY OF CALIMESA, PER THE THEIR REQUIREMENTS.

#### LEGEND & ABBREVIATIONS:



- INDICATES EXISTING STREET LIGHT
- INDICATES EXISTING SIGN - INDICATES EXISTING CATCH BASIN AND LOCAL DEPPRESION
- INDICATES EXISTING CONTOUR
- INDICATES STREET CENTERLINE
- INDICATES CURB & GUTTER LINE INDICATES PROPERTY LINE
- INDICATES RIGHT-OF-WAY LINE
- BC BEGIN CURB BCR - BEGIN CURB RETURN BVC - BEGIN VERTICAL CURVE CF - CURB FACE
- CL CENTERLINE CRB. - CURB RTN. - RETURN
- EC END CURB ECR - END CURB RETURN EVC - END VERTICAL CURVE FL - FLOWLINE
- FG FINISDH GROUND FS - FINISHED SURFACE GB - GRADE BREAK INV. - INVERT
- R/W RIGHT OF WAY PCC - POINT OF COMPOUND CURVE PI - POINT OF INTERSECTION PRC - POINT OF REVERSE CURVE
- TC TOP OF CURB VC - VERTICAL CURVE

## CITY OF CALIMESA, CALIFORNIA STREET IMPROVEMENT PLANS FOURTH STREET & BUENA VISTA COURT 411-150-020

OWNER/DEVELOPER: SAN GORGONIA PASS WATER AGENCY 1210 BEAUMONT AVE. BEAUMONT, CA 92223 PH: (951) 845-2577 LECKHART@SGPWA.COM

LEGAL DESCRIPTION:

THAT PORTION OF BLOCK 225, SUBDIVISION NO. 9, A PART OF YUCAIPA VALLEY, PER

TOPOGRAPHIC DATA SHOWN WAS OBTAINED

FROM AERIAL MAPPING. DATED NOVEMBER

**LOCAL UTILITY COMPANIES:** 

THE EDISON CO.

287 TENNESSEE STREET

REDLANDS, CA. 92373

PH: (909) 335-7191

THE GAS COMPANY

1981 LUGONIA AVENUE

REDLANDS, CA. 92373

SPECTRUM COMMUNICATIONS

7337 CENTRAL AVENUE

RIVERSIDE, CA. 92504

PH: (909) 322-7341

PH: (909) 793-2725

<u>CABLE:</u>

- LIMITS OF NEW ASPHALT PAVEMENT

REMOVAL AND RECONSTRUCTION

- LIMITS OF CONCRETE SIDEWALK

LIMITS OF FIXED DEPTH GRIND & OVERLAY

LIMITS OF FULL DEPTH AC AND SUBGRADE

APPROXIMATE LIMITS TRENCH REPAIR FULL

DEPTH REMOVAL, PER SEPARATE PLAN

LIMITS OF VARIABLE DEPTH GRIND & OVERLAY

SOUTH MESA WATER CO.

YUCAIPA VALLEY WATER DIST.

391 WEST AVENUE L

CALIMESA, CA 92320

PH: (909) 795-2401

12270 2ND STREET

YUCAIPA, CA. 92399

PH: (909) 797-5117

FRONTIER COMMUNICATIONS

PAVING LEGEND:

MICHAEL

THORNTON

No. C44226

Exp. 6/30/25

**TELEPHONE:** 

11 S. 4TH STREET

REDLANDS, CA. 92373

PH: (909) 217-0116

WATER:

MAP RECORDED IN BOOK 9, PAGE 76.

RECORDS OF RIVERSIDE COUNTY.

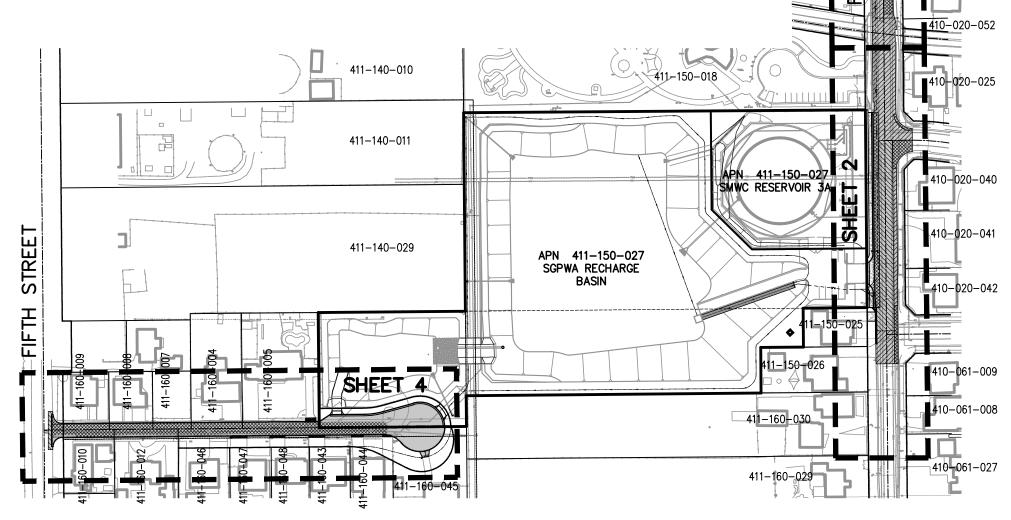
CALIFORNIA. SEE TITLE REPORT

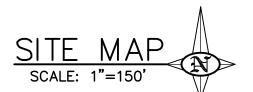
BASIS OF TOPOGRAPHY:

6, 2022 SEE BENCHMARK BELOW

CIVIL ENGINEER: LAND ENGINEERING CONSULTANTS, INC. P.O. BOX 541 650 AVENUE K CALIMESA, CA. 92320 PH: (909) 795-8882

SOILS ENGINEER: LOR GEOTECHNICAL GROUP, INC. 6121 QUAIL VALLEY COURT RIVERSIDE, CA. 92507 PH: (909) 653-1760 JLEUER@LÓRGEO.COM





#### INDEX OF SHEETS

SHEET 1 TITLE SHEET, GENERAL & CONSTRUCTION NOTES SHEET 2 FOURTH STREET PLAN & PROFILE SHEET 3 FOURTH STREET NORTH PLAN VIEW, SECTIONS, & DETAILS SHEET 4 BUENA VISTA COURT PLAN & PROFILE

411-150-008

411-150-009

410-020-003

#### CONTRACTOR'S RESPONSIBILITY FOR SAFETY:

IN SUBMITTING A BID FOR THIS WORK. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS. AND THAT THE CONTRACTOR SHALL DEFEND. INDEMNIFY AND HOLD THE OWNER. THE ENGINEER AND THE CITY OF CALIMESA HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT THE EMPLOYEES ARE PROVIDED AS SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND WITH "CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTOR OR SUBCONTRACTOR'S COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

#### **ENGINEERS NOTICE TO CONTRACTOR:**

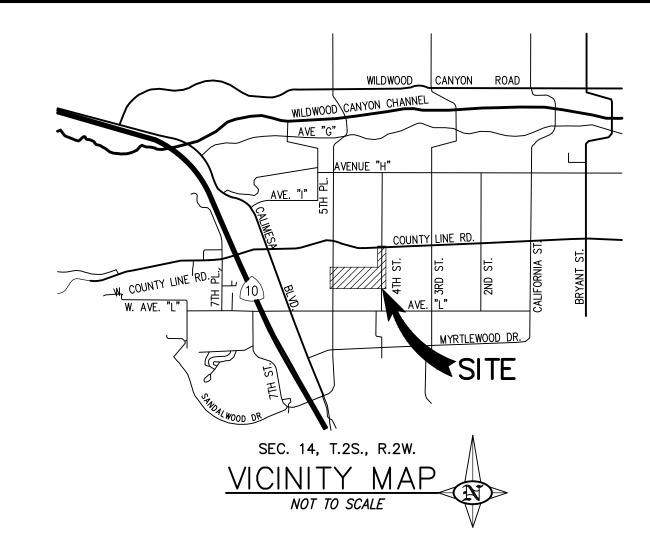
THE INFORMATION SHOWN ON THESE PLANS REGARDING THE EXISTENCE AND LOCATION OF THE UNDERGROUND UTILITIES OR STRUCTURES IS BASED UPON A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THE UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE ALL THAT EXIST. THE ENGINEER ASSUMES NO LIABILITY FOR ANY UTILITY STRUCTURE OR IRRIGATION LINE AND ITS LOCATION, WHETHER SHOWN OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO START OF CONSTRUCTION, TO DETERMINE EXACT LOCATION OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION OF THESE

THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (U.S.A.) PHONE NUMBER 811 TWO WORKING DAYS BEFORE DIGGING. PUBLIC WORKS DEPARTMENT CONSTRUCTION PERMITS, INVOLVING UNDERGROUND FACILITIES ARE NOT VALID UNLESS THE APPLICANT HAS AN INQUIRY IDENTIFICATION NUMBER ISSUED BY THE U.S.A.

#### NOTICE OF INTENT FOR SWRCB:

CONSTRUCTION PROJECTS MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT. OWNERS/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB), PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AND MONITORING PLAN FOR THE SITE.

PRIOR TO ANY CONSTRUCTION, THE DEVELOPER SHALL PROVIDE THE CITY A COPY OF THE NOI WITH A VALID WDID NUMBER. NOTE: THIS PLAN IS PART OF A LARGER PLAN OF DEVELOPMENT FOR THE COUNTY LINE RECHARGE BASIN



#### (1) COLD PLANE EXISTING ASPHALT PAVEMENT. 1.5" DEPTH. 2 SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT, BASE, AND SUBGRADE, 7" MAX. DEPTH. 3 SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT, BASE, AND SUBGRADE, DEPTH AS REQUIRED FOR NEW PROFILE ELEVATIONS AND PAVEMENT SECTION. (4) REMOVE EXISTING AC BERM TO LIMITS SHOWN. (5) REMOVE & REPLACE CONCRETE DRIVEWAY TO JOIN EXISTING (2% MIN TO 10% MAX)

(6) CONSTRUCT 3" ASPHALT CONCRETE (2 LIFTS MIN.) OVER 4" MISCELLANEOUS AGGREGATE BASE OVER 12" COMPACTED NATIVE. PER CITY OF CALIMESA.

U CONSTRUCT 3" ASPHALT CONCRETE (2 LIFTS MIN.) OVER 6" CLASS II AGGREGATE BASE OVER 12" COMPACTED NATIVE. PER SOILS ÉNGINEER RECOMMENDATIONS. (8) CONSTRUCT 5" MIN. ASPHALT CONCRETE (2 LIFTS MIN.) WITH ASPHALT SWALES PER DETAIL ON SHEET 1 OVER 12" COMPACTED NATIVE, PER SOILS

ENGINEER RECOMMENDATIONS. (9) CONSTRUCT 1.5" ASPHALT CONCRETE OVERLAY.

STREET CONSTRUCTION NOTES:

(10) CONSTRUCT ASPHALT CONCRETE OVERLAY, VARIABLE DEPTH (1.5" MIN.) AS REQUIRED TO ACHIEVE NEW PROFILE ELEVATIONS. (11) CONSTRUCT 6" TRAVERSABLE DIKE PER DETAIL ON SHEET 1. TRANSITION TO EX. BERM AND PROPOSED CURB WHERE SHOWN.

(12) CONSTRUCT 6" ASPHALT DIKE PER RIV. CO. STD. 212. (13) CONSTRUCT TYPE A-8 CURB & GUTTER PER RIV. CO. STD. 201 & 205.

(14) CONSTRUCT TYPE A-6 CURB & GUTTER PER RIV. CO. STD. 201 & 205. (15) CONSTRUCT COMMERCIAL DRIVE APPROACH PER RIV. CO. STD. 207A (MODIFIED TO 4' S/W).

(16) CONSTRUCT RESIDENTIAL DRIVE APPROACH PER RIV. CO. STD. 213 (MODIFIED TO 4' S/W). (17) CONSTRUCT CONCRETE SIDEWALK ADJACENT TO CURB PER RIV. CO. STD. 401.

(18) TRANSITION FROM 8" CURB FACE TO EX. 10" CURB FACE. (19) PROTECT IN PLACE EXISTING POWER POLE. (20) PROTECT EXISTING VALVE AND VALVE CAN IN PLACE (21) PROTECT EXISTING MANHOLE IN PLACE.

(22) ADJUST EXISTING VALVE AND VALVE CAN TO GRADE PER SMWC STANDARDS. (23) ADJUST EXISTING SEWER MANHOLE TO GRADE PER YVWD STD. DWG. S-5. (24) ADJUST EXISTING HYDRANT TO GRADE PER SMWC STDS.

(25) RELOCATE EXISTING MAILBOX TO LOCATION SHOWN, OR PER OWNER. (26) REMOVE AND REPLACE EXISTING STREET SIGN, PER CITY OF CALIMESA STDS. (27) INSTALL CHANNELIZERS AT 12' O.C. PER CALTRANS STD. A73C.

(28) INSTALL TYPE N-2(CA) RED RETROREFLECTIVE OBJECT MARKER METAL POST PER CALTRANS STD. A73B. (29) FURNISH AND APPLY RIGHT EDGE LINE PER CALTRANS STD. A20B, DETAIL 27B.

(30) FURNISH AND APPLY STOP LINE WITH TEMPORARY TRAFFIC PAINT PER CALTRANS STD. A24G.

PER CALTRANS STD. A24D.

(31) FURNISH AND APPLY PAVEMENT LEGEND WITH TEMPORARY TRAFFIC PAINT

#### SEE TYPICAL STREET SECTIONS AND DETAILS ON SHEET 3



## SEAL-CITY MARK BY DATE APPR. DATE REVISIONS

#### CITY OF CALIMESA PUBLIC WORKS DEPARTMENT

MICHAEL THORNTON P.E., CITY ENGINEER, RCE C44226 DATE

SEAL-DESIGN ENGINEER

P.O. BOX 541, 650 AVENUE K CALIMESA, CALIFORNIA 92320 TEL: 909-795-8882 FAX: 909-795-8818

PLANS PREPARED UNDER THE SUPERVISION OF: CONSULTANTS, INC

LAND **ENGINEERING** 

BENCH MARK: CITY OF YUCAIPA BM NO. 450 LOCATED AT 0.5 FT. EAST OF EAST CURB RETURN.

SOUTHEAST CORNER OF BONITA & BRYANT ST. 52.5 FT. EAST OF BRYANT, 18 FT. SOUTH OF BONITA. 150 FT. NORTH OF COUNTY LINE RD., ELEVATION = 2609.115

CITY OF CALIMESA STREET IMPROVEMENT PLAN FOURTH STREET & BUENA VISTA COURT TITLE SHEET

OF 4 SHEETS

STEVEN H. RITCHEY, ROE 51129 MARI SHAKIR, INTERIM PUBLIC WORKS DIRECTOR DATE

HORZ: 1"=20' VERT: 1"=2'

CITY OF CALIMESA PUBLIC WORKS DEPARTMENT

PLAN No.

QUANTITIES

22,411 SF

14,391 SF

12,498 SF

363 LF

595 SF

14,391 SF (261 TONS AC)

6,915 SF (126 TONS AC)

13,369 SF (418 TONS AC)

15,135 SF (138 TONS AC)

6,702 SF (151 TONS AC)

57 LF

21 LF

249 LF

155 LF

1 EA

2 EA

1 EA

2 EA

8 EA

2 EA

4 EA

3 EA

1 EA

2 EA

1 EA

4 EA

1 EA

30 LF

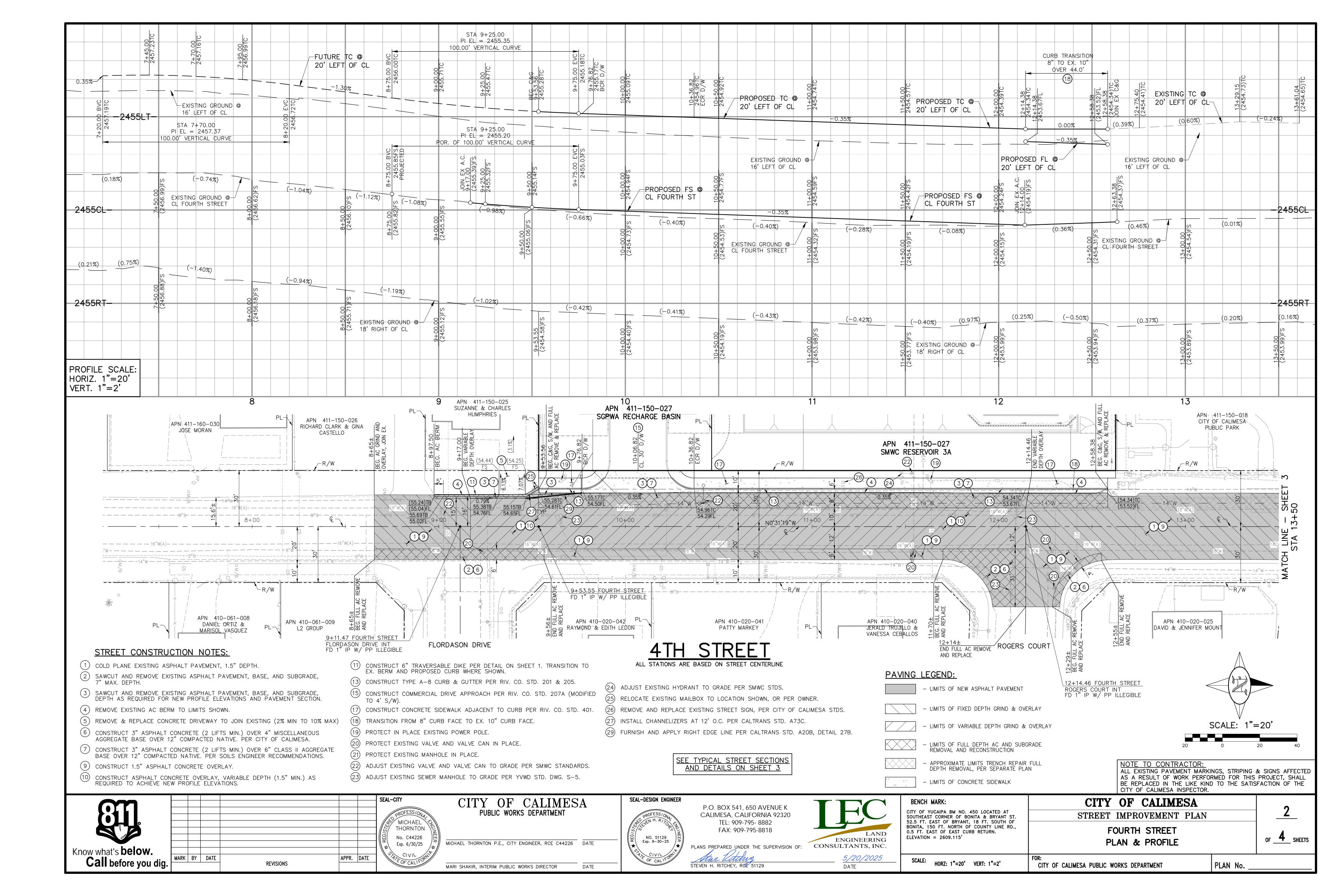
10 LF

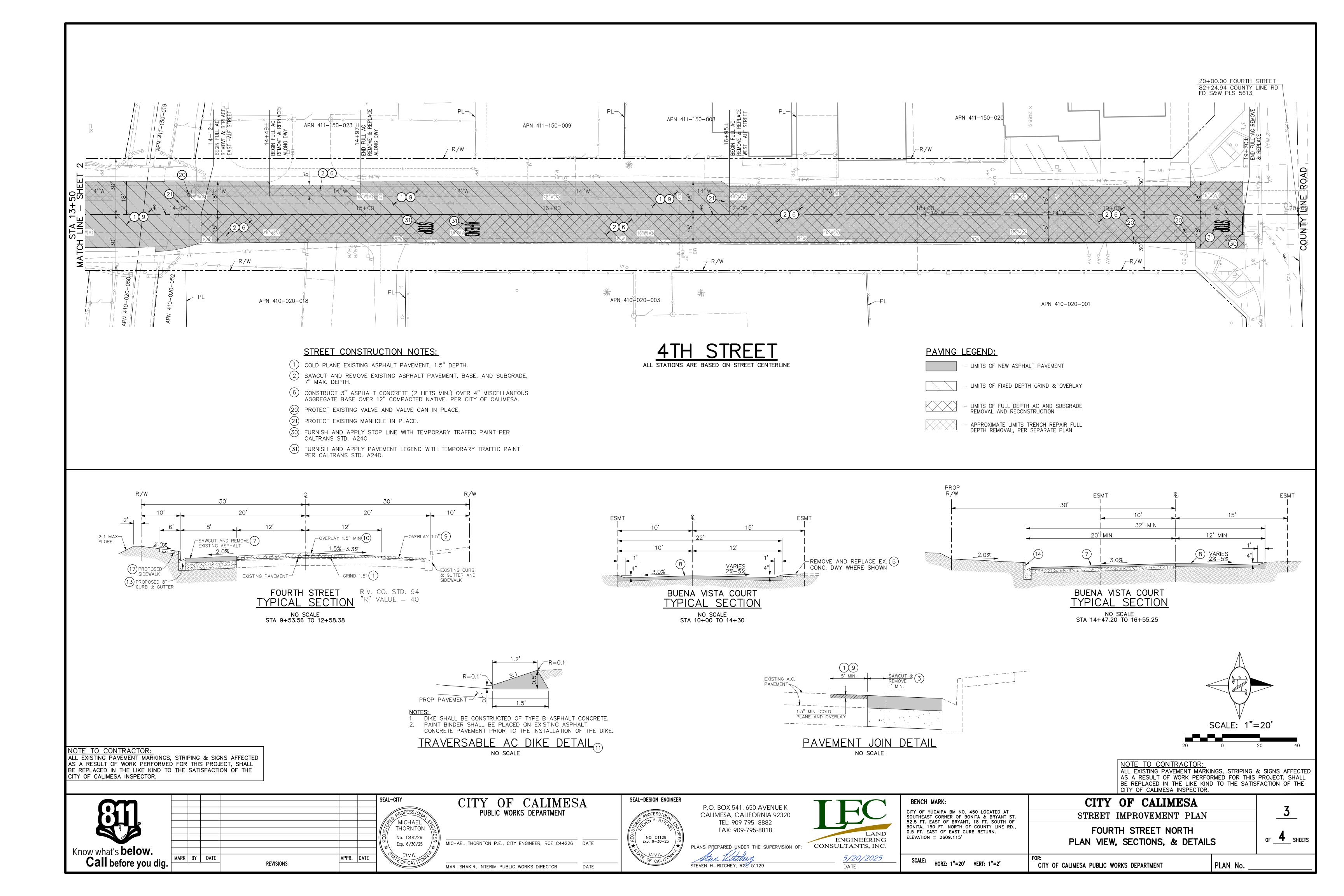
75 SF

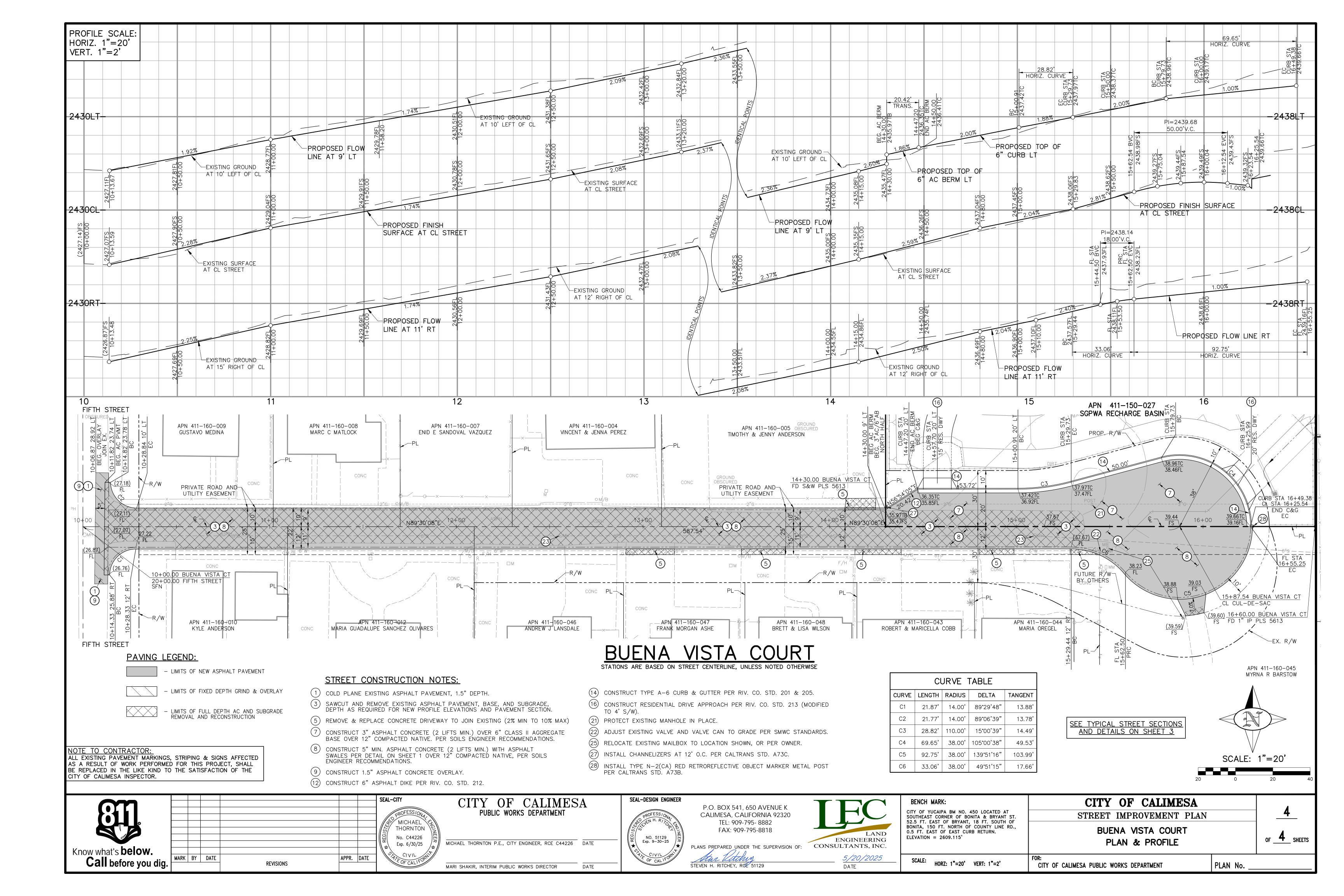
1,344 SF

(178 CY AB)

(129 CY AB)







# LANDSCAPE ARCHITECTURAL PLANS

FOR SAN GORGONIO PASS WATER AGENCY COUNTY LINE RECHARGE BASIN PROJECT

FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF

ANY UTILITY FACILITIES SHOWN AND ANY OTHER FACILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

UNDERGROUND SERVICE ALERT

THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT

# OWNER

SAN GORGONIO PASS WATER AGENCY 1210 BEAUMONT AVE. BEAUMONT, CA 92223 PH: (951) 845-2577 LECKHART@SGPWA.COM

AS-BUILT SERVICES. THE CONTRACTOR SHALL PROVIDE APPROPRIATE PROFESSIONALS TO

SIGN-OFFS AND CERTIFICATES TO BE ISSUED BY ALL NECESSARY JURISDICTIONS.

PROVIDE ALL NECESSARY AS BUILT INFORMATION TO ENABLE ALL FINAL PERMITS, INSPECTIONS,

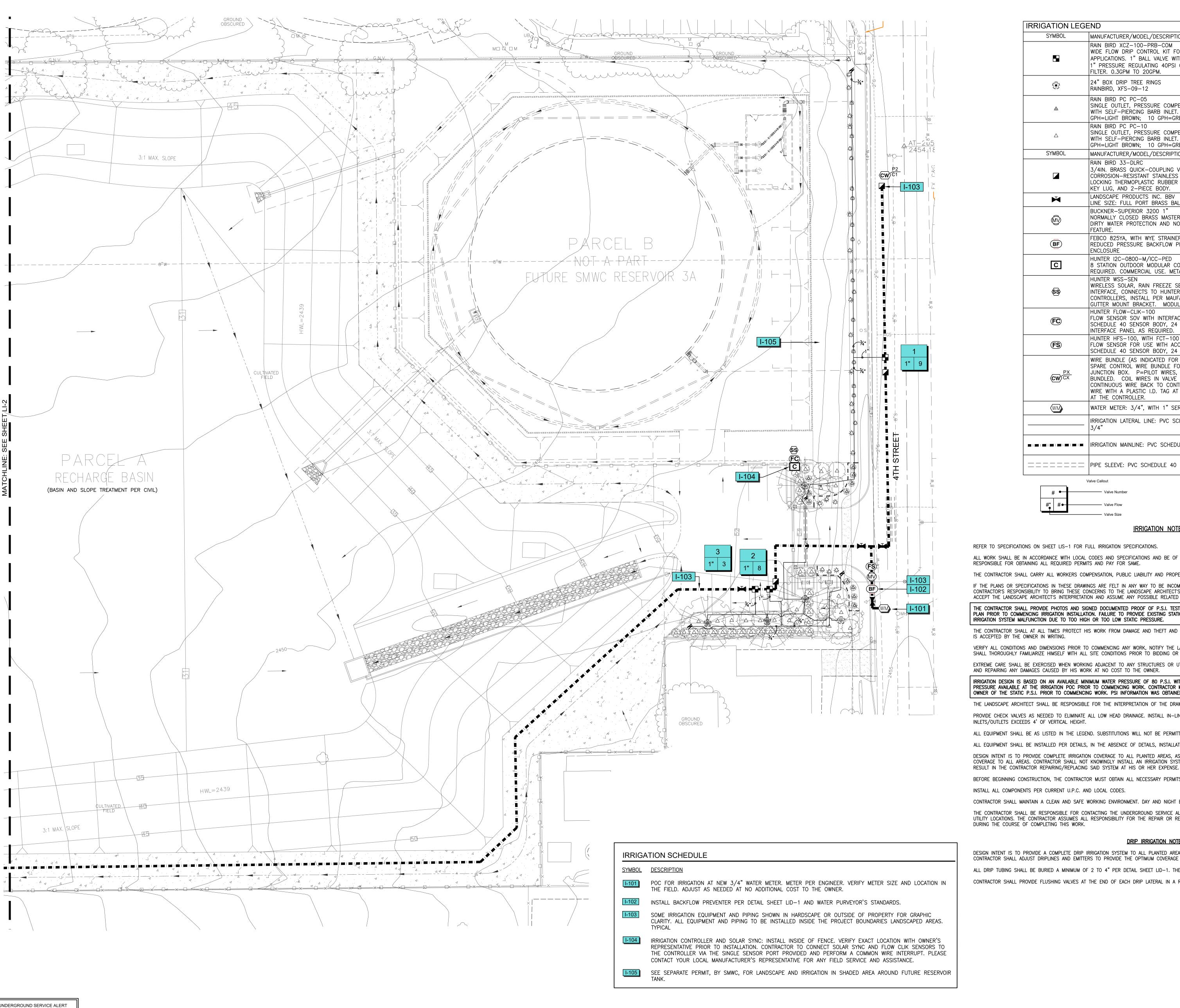
		LECKHART@SGI	PWA.COM
NOTES	ABBREVIATIONS		
CONTRACTOR AGREES, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JUST SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PEPSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR PURTHER AGREES TO BEFEND, INDEMNIY AND HOLD THE OWNER AND THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF MORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.  NOTICE TO CONTRACTORS  ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE LIS. DEPARTMEN OF LABOR AND THE CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS". THE LANDSCAPE ARCHITECT SHALL NOT DE RESPONSIBLE, IN ANY WAY, FOR THE CONTRACTOR'S OR SUBCONTRACTOR'S COMPLIANCE OR NONCOMPLIANCE WITH SAID REGULATIONS AND ORDERS.  UNDERGROUND STRUCTURES  ALL UNDERGROUND UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS AND THOSE SHOWN ON THE RECORDS EXAMINED ARE MINICATED WITH HEIR APPROXIMATE LOCATION AND EXTENT. THE OWNER, BY ACCEPTION THESE PLANS OR PROCEEDING WITH HARPOVEMENTS PURSUANT THERETO, AGREES TO ASSUME LABBLITY AND OTHER MINICATED WITH HEIR PROPROXIMATE LOCATION AND EXTENT. THE OWNER, BY ACCEPTION THESE PLANS OR PROCEEDING WITH HARPOVEMENTS PURSUANT THERETO, AGREES TO ASSUME LABBLITY AND OTHER MINICATED WITH HARPOVEMENTS PURSUANT THERETO, AGREES TO ASSUME LABBLITY AND TO THOLD UNDERSTONED HARMLESS FOR ANY DAMAGE SERVILLOR FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES SHOWN AND A PROCEDED THE UTILITIES OR STRUCTURES FOUND AT THE STRUCTURES SHOWN AND A PROPERTY OF THE UTILITIES OR STRUCTURES FOUN	AD AREA DRAIN EJ EXPANSION JOINT NG NATURAL GRADE STRL STRUCTURAL ADJUSTABLE EL ELEVATION NIC NOT IN CONTACT SYS SYMMETRICAL AGGR AGGREGATE ELEC ELECTRICAL NO NUMBER TC TOP OF CURB APPROX APPROXIMATELY EQ EULAL NTS NOT TO SCALE TF TOP OF FENCE ARCH ARCHITECTURAL EXP EXPANSION OC ON CENTER THK THICK ASPH ASPHALT EXPO EXPOSED OD OUTSIDE DIAMETER TOC TOP OF CONCRETE BOTTOM OF FENCE EXST EXISTING OPP OPPENING TP TOP OF FANCENT BLOG BUILDING FG FINISH GRADE PA PLANTER AREA TR TOP OF FAIL BLAG BUILDING FG FINISH GRADE PA PLANTER AREA TR TOP OF FAIL BLAG BUILDING FG FINISH GRADE PA PLANTER AREA TR TOP OF FAIL BM BENCHMARK FL FLOOR POC FOUND FOR CONNECTION TW TOP OF WALL BOT BOTTOM OF PILLASTER PS FINISH SUBFACE PT POINT UNFORMSHED BW BOTTOM OF PILLASTER PS FINISH SUBFACE PT POINT UNFORMSHED BW BOTTOM OF WALL FSG FINISHED SUB-GRADE R RISER UON UNLESS OTHERWISE NOTED CL CENTERLINE FT FOOT OR FEET RAD RADIUS VERTICAL CL CENTERLINE FT FOOT OR FEET RAD RADIUS VERTICAL CLEAR GND GROUND REINF REINFORCED W/ WITH CLEAR GND GROUND REINF REINFORCED W/ WOOD COL COLUMN HB HOSE BIBB REQ REQUIRED W/ WOOD CONSTR CONSTRUCTION HORIZ HORIZONTAL RP REFERENCE W/ WWITH CCR CLEAR GND GROUND REINF REINFORCED W/ WWO WATERPROOF CONSTR CONSTRUCTION HORIZ HORIZONTAL RP REFERENCE POINT W/ WATERPROOF CONSTR CONSTRUCTION HORIZ HORIZONTAL RP REFERENCE POINT W/ WATERPROOF CONT CONTINUOUS ID INSIDE DIAMETER RWD REDWOOD W/ WATERPROOF CONT CONTINUOUS ID INSIDE DIAMETER RWD REDWOOD W/ WATERPROOF CONT CONTINUOUS ID INSIDE DIAMETER RWD REDWOOD W/ WATERPROOF DETAIL LF LINEAR FOOT OR FEET SCHEDULE SECTION SECTION SECTION DIM DIMENSION MET MEMBLACTURER SQ SOUARE DIM DIMENSION MET MEMBLACTURER SQ S		TION NOTE TO CONTRACTOR:  FOR CONTACTING THE CITY, THE S NECESSARY, TO FACILITATE ALL QUIRED BY THE CITY THAT RELATE ION.  ER COMPANY
VICINITY MAP	SITE MAP	GENERAL NOTES	SHEET INDEX
AVENUE L  ROAD GITY OF PURAMESA  FROM CITY OF CAMPESA  AVENUE L  PROJECT  SEC. 14, T.2S., R.2W.  VICINITY MAP  N.T.S.	M.T.S.	A. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY LANDSCAPE DEVELOPMENT GUIDELINES AND SPECIFICATIONS;  B. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING BUILDING AND PLUMBING PERMITS PRIOR TO COMMENCING WALL CONSTRUCTION, AND IRRIGATION INSTALLATION RESPECTIVELY;  C. THE CONTRACTOR MUST NOTIFY THE CITY TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION;  D. LANDSCAPE OR IRRIGATION CONTRACTOR SHALL VERIFY EXISTING P.S.I. AT JOB SITE PRIOR TO INSTALLING LANDSCAPE IRRIGATION SYSTEM;  E. AT THE CONCLUSION OF ROUGH GRADING, AGRONOMIC SOILS TESTING SHALL BE PROVIDED FOR THE PROJECT AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO ANY LANDSCAPE INSTALLATION;  F. THE APPROXIMATE LOCATIONS OF KNOWN EXISTING UNDERGROUND UTILITIES ARE FROM LOCATION;  FOR THERS. THE UTILITIES ARE PLOTTED FROM RECORD AND FIELD DATA. THE LANDSCAPE ARCHITECT ASSUMES NO LIABILITY AS TO THE EARCH LOCATION OF SAID LINES WHETHER SHOWN OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY TO COMPANIES PRIOR TO WORK OR EXCAVATION TO DETERMINE THE EXACT LOCATION OF UNDERGROUND LINES.  G. ANY CONTRACTOR PEFFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE HIMSELF WITH THE SITE AND SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY OR INDIRECTLY FROM HIS OPERATIONS, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THESE PLANS.  H. SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE CONSTRUCTION OVERKING DAYS BEFORE YOU DIG.  I. SULMTITIES LISTED HEREON ARE PROVIDED FOR THE PURPOSE OF COMPARING BIDS. THE CONTRACTOR SHALL DETERMINE ACTUAL CONSTRUCTION QUANTITIES.	SHEET NUMBER T-1 TITLE SHEET LI-1 IRRIGATION PLAN LI-2 IRRIGATION PLAN LID-1 IRRIGATION DETAILS LP-1 PLANTING PLAN LP-2 PLANTING PLAN LPD-1 PLANTING DETAILS & WATER USE CALCS LIS-1 IRRIGATION SPECIFICATIONS LPS-1 PLANTING SPECIFICATIONS
	ERRORS AND OMISSIONS	CONSULTA	ANTS
	STB LANDSCAPE ARCHITECTS, INC. HEREBY CERTIFIES THAT THE DESIGN, DETAILS AND SPECIFICATIONS AS REPRESENTED HEREIN MEET PROFESSIONAL LANDSCAPE ARCHITECTURAL STANDARDS. STB LANDSCAPE ARCHITECTS, INC. CANNOT GUARANTEE THE QUALITY OF CONSTRUCTION, INSTALLATION OR MAINTENANCE OF IMPROVEMENTS AS DESIGNED AND/OR SPECIFIED HEREIN AND DISCLAIMS ANY FUTURE LIABILITY RESULTING FROM DEVIATIONS.	LANDSCAPE ARCHITECT:  STB LANDSCAPE ARCHITECTS, Inc. 15 S. 5TH STREET REDLANDS, CA 92373 (909) 798-7490 CONTACT: SHAWN BURCH EMAIL: SHAWN@STBLANDARCH.COM	CIVIL ENGINEER:  LAND ENGINEERING CONSULTANTS, INC. P.O. BOX 541, 650 AVENUE K CALIMESA, CA 92320 STEVE RITCHEY (909) 795-8882
NOTICE TO CONTRACTORS  THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED FROM INFORMATION PROVIDED BY OTHERS. THESE LOCATIONS MAY BE APPROXIMATE AND SHALL BE CONFIRMED IN	STS  STS  STS  STS  STS  STS  STS  STS	STB LANDSCAPE ARCHITECTS INC. HAS NOT BEEN	RETAINED BY THE OWNER TO PROVIDE

15 SOUTH 5TH STREET REDLANDS, CALIFORNIA 92373

PH 909.798.7490 FAX 909.307.8235

LANDSCAPE ARCHITECTURE IRRIGATION CONSULTANTS WATER FEATURE DESIGNS

CA LIC. NO. 2725 NV LIC. NO. 466



SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	DE
<b>=</b>	RAIN BIRD XCZ-100-PRB-COM WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1" BALL VALVE WITH 1" PESB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3GPM TO 20GPM.		A,
<b>©</b>	24" BOX DRIP TREE RINGS RAINBIRD, XFS-09-12	30	В,
۵	RAIN BIRD PC PC-05 SINGLE OUTLET, PRESSURE COMPENSATING DRIP EMITTERS WITH SELF-PIERCING BARB INLET. FLOW RATE: 5 GPH=LIGHT BROWN; 10 GPH=GREEN;	30	С,
Δ	RAIN BIRD PC PC-10 SINGLE OUTLET, PRESSURE COMPENSATING DRIP EMITTERS WITH SELF-PIERCING BARB INLET. FLOW RATE: 5 GPH=LIGHT BROWN; 10 GPH=GREEN;	30	c,
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION		DE
	RAIN BIRD 33-DLRC 3/4IN. BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, DOUBLE TRACK KEY LUG, AND 2-PIECE BODY.  LANDSCAPE PRODUCTS INC. BBV		D ,
	LINE SIZE: FULL PORT BRASS BALL VALVE.		Ε,
	BUCKNER-SUPERIOR 3200 1" NORMALLY CLOSED BRASS MASTER VALVE THAT PROVIDES DIRTY WATER PROTECTION AND NO MINIMUM FLOW FEATURE.		F,
BF	FEBCO 825YA, WITH WYE STRAINER 1-1/2" REDUCED PRESSURE BACKFLOW PREVENTER, IN SB ENCLOSURE		G,
C	HUNTER I2C-0800-M/ICC-PED 8 STATION OUTDOOR MODULAR CONTROLLER. NO MODULE REQUIRED. COMMERCIAL USE. METAL PEDESTAL.		Н,
\$\$	HUNTER WSS-SEN WIRELESS SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER X-CORE AND ACC CONTROLLERS, INSTALL PER MAUFACTURER. INCLUDES GUTTER MOUNT BRACKET. MODULE NOT INCLUDED.		Н,
FC	HUNTER FLOW-CLIK-100 FLOW SENSOR SOV WITH INTERFACE PANEL, 1IN. SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP, INSTALL INTERFACE PANEL AS REQUIRED.		Н,
FS	HUNTER HFS-100, WITH FCT-100 TEE FLOW SENSOR FOR USE WITH ACC CONTROLLER, 1IN. SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP.		F,
<b>⟨CW</b> ⟩ ^{CX}	WIRE BUNDLE (AS INDICATED FOR FUTURE USE) SPARE CONTROL WIRE BUNDLE FOR FUTURE USE IN JUNCTION BOX. P=PILOT WIRES, C=COMMON WIRES BUNDLED. COIL WIRES IN VALVE BOX, AND RUN CONTINUOUS WIRE BACK TO CONTROLLER. LABEL EACH WIRE WITH A PLASTIC I.D. TAG AT THE WIRE BUNDLE AND AT THE CONTROLLER.		
WM	WATER METER: 3/4", WITH 1" SERVICE-PER CIVIL		
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40, MINIMUM 3/4"		Ι,
	■ IRRIGATION MAINLINE: PVC SCHEDULE 40, 1-1/4"		١,
=====	PIPE SLEEVE: PVC SCHEDULE 40		Ι,

#### <u>IRRIGATION NOTES</u>

REFER TO SPECIFICATIONS ON SHEET LIS-1 FOR FULL IRRIGATION SPECIFICATIONS.

ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND SPECIFICATIONS AND BE OF THE HIGHEST QUALITY TYPICAL OF THE TRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND PAY FOR SAME.

THE CONTRACTOR SHALL CARRY ALL WORKERS COMPENSATION, PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE AS REQUIRED BY THE STATE, CITY OR OWNER.

IF THE PLANS OR SPECIFICATIONS IN THESE DRAWINGS ARE FELT IN ANY WAY TO BE INCOMPLETE, MISDIRECTING, CONFLICTING OR SUBJECT TO MISINTERPRETATION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BRING THESE CONCERNS TO THE LANDSCAPE ARCHITECT'S ATTENTION BEFORE BIDDING. IF THE CONTRACTOR FAILS TO DO SO, THEY MUST ACCEPT THE LANDSCAPE ARCHITECT'S INTERPRETATION AND ASSUME ANY POSSIBLE RELATED FINANCIAL IMPACT.

THE CONTRACTOR SHALL PROVIDE PHOTOS AND SIGNED DOCUMENTED PROOF OF P.S.I. TESTING SHOWING AVAILABLE STATIC PRESSURE AT THE P.O.C. OR IRRIGATION METER PER PLAN PRIOR TO COMMENCING IRRIGATION INSTALLATION. FAILURE TO PROVIDE EXISTING STATIC PRESSURE TESTING WILL ABSOLVE STB LANDSCAPE ARCHITECT'S INC. FROM ANY IRRIGATION SYSTEM MALFUNCTION DUE TO TOO HIGH OR TOO LOW STATIC PRESSURE.

THE CONTRACTOR SHALL AT ALL TIMES PROTECT HIS WORK FROM DAMAGE AND THEFT AND REPLACE ALL DAMAGED OR STOLEN PARTS AT HIS EXPENSES UNTIL THE INSTALLATION IS ACCEPTED BY THE OWNER IN WRITING.

VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING ANY WORK, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IF ANY DISCREPANCY IS FOUND. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH ALL SITE CONDITIONS PRIOR TO BIDDING OR COMMENCING WORK.

EXTREME CARE SHALL BE EXERCISED WHEN WORKING ADJACENT TO ANY STRUCTURES OR UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGES CAUSED BY HIS WORK AT NO COST TO THE OWNER.

IRRIGATION DESIGN IS BASED ON AN AVAILABLE MINIMUM WATER PRESSURE OF 80 P.S.I. WITH A MAXIMUM SYSTEM DEMAND OF 9 G.P.M. CONTRACTOR SHALL VERIFY STATIC PRESSURE AVAILABLE AT THE IRRIGATION POC PRIOR TO COMMENCING WORK. CONTRACTOR MUST PROVIDE SIGNED DOCUMENTED PROOF TO THE LANDSCAPE ARCHITECT AND OWNER OF THE STATIC P.S.I. PRIOR TO COMMENCING WORK. PSI INFORMATION WAS OBTAINED FROM THE CIVIL ENGINEER.

THE LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR THE INTERPRETATION OF THE DRAWINGS SHOULD A QUESTION ARISE.

PROVIDE CHECK VALVES AS NEEDED TO ELIMINATE ALL LOW HEAD DRAINAGE. INSTALL IN-LINE CHECK/ANTI-DRAIN VALVES WHENEVER AN ELEVATION DIFFERENCE BETWEEN INLETS/OUTLETS EXCEEDS 4' OF VERTICAL HEIGHT.

ALL EQUIPMENT SHALL BE AS LISTED IN THE LEGEND. SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.

ALL EQUIPMENT SHALL BE INSTALLED PER DETAILS, IN THE ABSENCE OF DETAILS, INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD PRACTICE OF THE TRADE. DESIGN INTENT IS TO PROVIDE COMPLETE IRRIGATION COVERAGE TO ALL PLANTED AREAS, AS FIELD CHANGES MAY OCCUR, CONTRACTOR IS REQUIRED TO PROVIDE 100% COVERAGE TO ALL AREAS. CONTRACTOR SHALL NOT KNOWINGLY INSTALL AN IRRIGATION SYSTEM WITH IMPROPER COVERAGE, FAILURE TO NOTIFY THE LANDSCAPE ARCHITECT SHALL

BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR MUST OBTAIN ALL NECESSARY PERMITS FROM THE CITY.

INSTALL ALL COMPONENTS PER CURRENT U.P.C. AND LOCAL CODES.

CONTRACTOR SHALL MAINTAIN A CLEAN AND SAFE WORKING ENVIRONMENT. DAY AND NIGHT BARRICADES MUST BE PROVIDED FOR ALL OPEN TRENCHES.

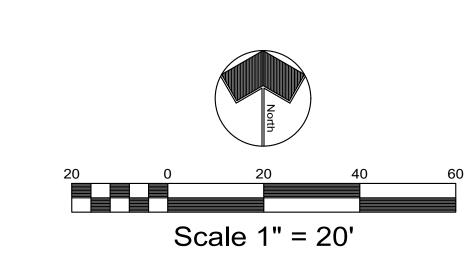
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE UNDERGROUND SERVICE ALERT AT 811 AT LEAST 48 HOURS PRIOR TO TRENCHING FOR EXACT UNDERGROUND UTILITY LOCATIONS. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THE REPAIR OR REPLACEMENT OF UNDERGROUND UTILITIES OR STRUCTURES WHICH ARE DAMAGED DURING THE COURSE OF COMPLETING THIS WORK.

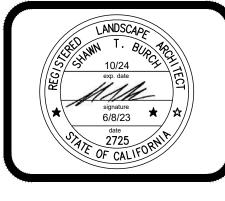
#### **DRIP IRRIGATION NOTES:**

DESIGN INTENT IS TO PROVIDE A COMPLETE DRIP IRRIGATION SYSTEM TO ALL PLANTED AREAS WITH THE QUANTITY OF DRIPLINES AND EMITTERS AS INDICATED ON THE PLAN. CONTRACTOR SHALL ADJUST DRIPLINES AND EMITTERS TO PROVIDE THE OPTIMUM COVERAGE TO ALL PLANT MATERIALS AND SHALL GUARANTEE SAME.

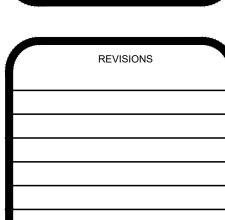
ALL DRIP TUBING SHALL BE BURIED A MINIMUM OF 2 TO 4" PER DETAIL SHEET LID-1. THE ONLY EXPOSED TUBING WILL BE THAT SMALL PORTION NEAR THE ROOTBALL.

CONTRACTOR SHALL PROVIDE FLUSHING VALVES AT THE END OF EACH DRIP LATERAL IN A ROUND PLASTIC VALVE BOX PER IRRIGATION LEGEND.

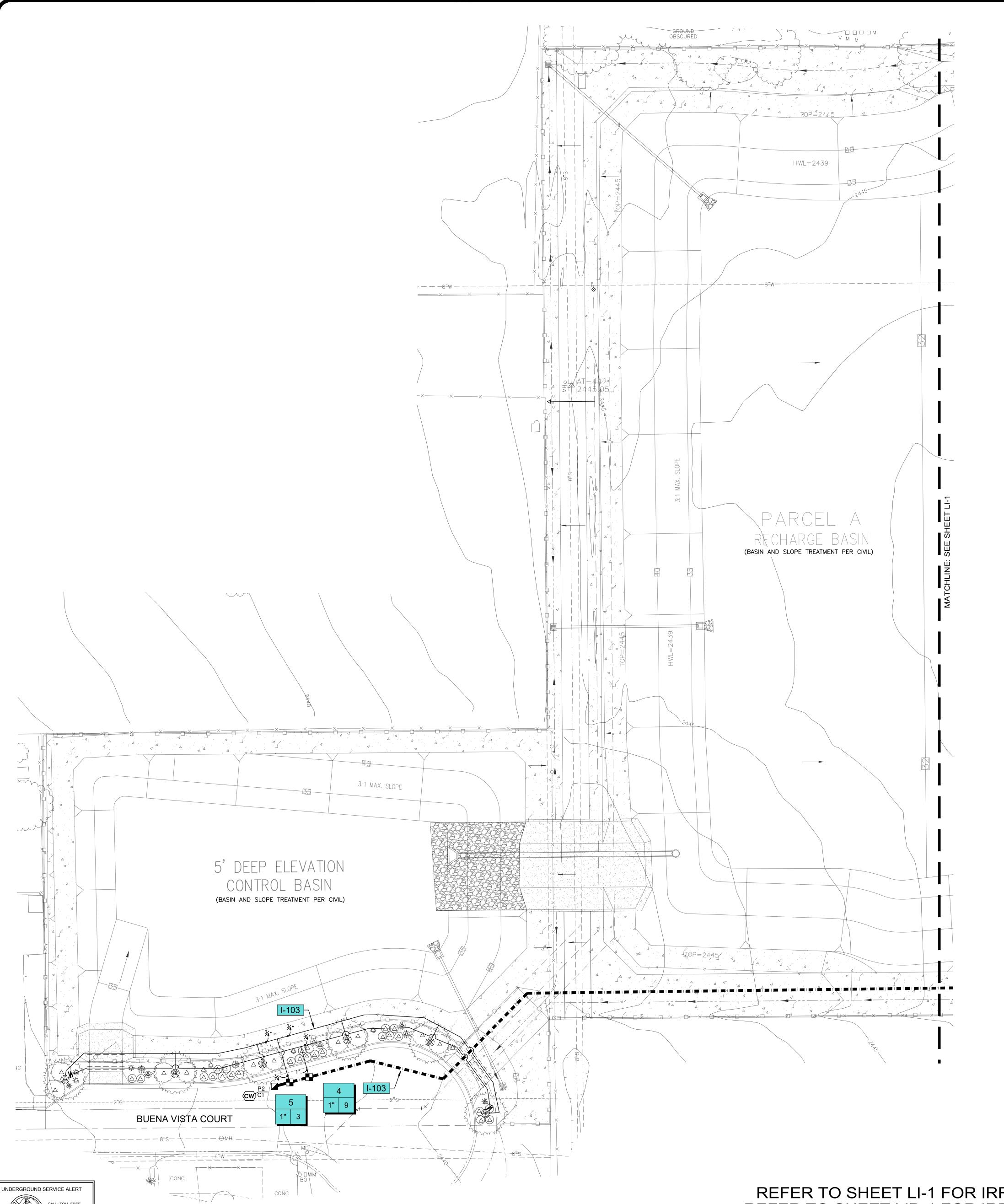








DRAWN BY	١
CAD	
DESIGNED BY	
CR	
CHECKED BY	
STB	
DATE	
6/8/23	
JOB NO.	
22-43	
SCALE	
1"=20'	
SHEET	



SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	DETAIL
STMBOL	RAIN BIRD XCZ-100-PRB-COM	F 31	DETAIL
•	WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1" BALL VALVE WITH 1" PESB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK—CHECK BASKET FILTER. 0.3GPM TO 20GPM.		A, LID-1
<b>©</b>	24" BOX DRIP TREE RINGS RAINBIRD, XFS-09-12	30	B, LID-1
۵	RAIN BIRD PC PC-05 SINGLE OUTLET, PRESSURE COMPENSATING DRIP EMITTERS WITH SELF-PIERCING BARB INLET. FLOW RATE: 5 GPH=LIGHT BROWN; 10 GPH=GREEN;	30	C , LID-
Δ	RAIN BIRD PC PC-10 SINGLE OUTLET, PRESSURE COMPENSATING DRIP EMITTERS WITH SELF-PIERCING BARB INLET. FLOW RATE: 5 GPH=LIGHT BROWN; 10 GPH=GREEN;	30	C , LID-
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION		DETAIL
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	LANDSCAPE PRODUCTS INC. BBV LINE SIZE: FULL PORT BRASS BALL VALVE.		E , LID-
	BUCKNER-SUPERIOR 3200 1" NORMALLY CLOSED BRASS MASTER VALVE THAT PROVIDES DIRTY WATER PROTECTION AND NO MINIMUM FLOW FEATURE.		F , LID-1
BF	FEBCO 825YA, WITH WYE STRAINER 1-1/2" REDUCED PRESSURE BACKFLOW PREVENTER, IN SB ENCLOSURE		G , LID-
C	HUNTER I2C-0800-M/ICC-PED 8 STATION OUTDOOR MODULAR CONTROLLER. NO MODULE REQUIRED. COMMERCIAL USE. METAL PEDESTAL.		H , LID-
<b>(SS</b> )	HUNTER WSS—SEN WIRELESS SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER X—CORE AND ACC CONTROLLERS, INSTALL PER MAUFACTURER. INCLUDES GUTTER MOUNT BRACKET. MODULE NOT INCLUDED.		H , LID-
FC	HUNTER FLOW-CLIK-100 FLOW SENSOR SOV WITH INTERFACE PANEL, 1IN. SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP, INSTALL INTERFACE PANEL AS REQUIRED.		H , LID-
FS	HUNTER HFS-100, WITH FCT-100 TEE FLOW SENSOR FOR USE WITH ACC CONTROLLER, 1IN. SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP.		F, LID-
CW CX	WIRE BUNDLE (AS INDICATED FOR FUTURE USE) SPARE CONTROL WIRE BUNDLE FOR FUTURE USE IN JUNCTION BOX. P=PILOT WIRES, C=COMMON WIRES BUNDLED. COIL WIRES IN VALVE BOX, AND RUN CONTINUOUS WIRE BACK TO CONTROLLER. LABEL EACH WIRE WITH A PLASTIC I.D. TAG AT THE WIRE BUNDLE AND AT THE CONTROLLER.		
WM	WATER METER: 3/4", WITH 1" SERVICE-PER CIVIL		
<del></del>	IRRIGATION LATERAL LINE: PVC SCHEDULE 40, MINIMUM 3/4"		I, LID-1
	IRRIGATION MAINLINE: PVC SCHEDULE 40, 1-1/4"		I , LID-1
	PIPE SLEEVE: PVC SCHEDULE 40		I, LID-1

#### IRRIGATION SCHEDULE

SYMBOL DESCRIPTION

POC FOR IRRIGATION AT NEW 3/4" WATER METER. METER PER ENGINEER. VERIFY METER SIZE AND LOCATION IN THE FIELD. ADJUST AS NEEDED AT NO ADDITIONAL COST TO THE OWNER.

I-102 INSTALL BACKFLOW PREVENTER PER DETAIL SHEET LID-1 AND WATER PURVEYOR'S STANDARDS.

INSTALL BACKFLOW PREVENTER PER DETAIL SHEET LID-1 AND WATER PURVEYOR'S STANDARDS.

SOME IRRIGATION EQUIPMENT AND PIPING SHOWN IN HARDSCAPE OR OUTSIDE OF PROPERTY FOR GRAPHIC CLARITY. ALL EQUIPMENT AND PIPING TO BE INSTALLED INSIDE THE PROJECT BOUNDARIES LANDSCAPED AREAS. TYPICAL

IRRIGATION CONTROLLER AND SOLAR SYNC: INSTALL INSIDE OF FENCE. VERIFY EXACT LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. CONTRACTOR TO CONNECT SOLAR SYNC AND FLOW CLIK SENSORS TO THE CONTROLLER VIA THE SINGLE SENSOR PORT PROVIDED AND PERFORM A COMMON WIRE INTERRUPT. PLEASE CONTACT YOUR LOCAL MANUFACTURER'S REPRESENTATIVE FOR ANY FIELD SERVICE AND ASSISTANCE.

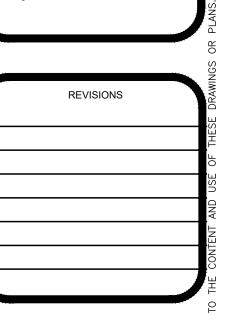
SEE SEPARATE PERMIT, BY SMWC, FOR LANDSCAPE AND IRRIGATION IN SHADED AREA AROUND FUTURE RESERVOIR





RIGATION PLAN

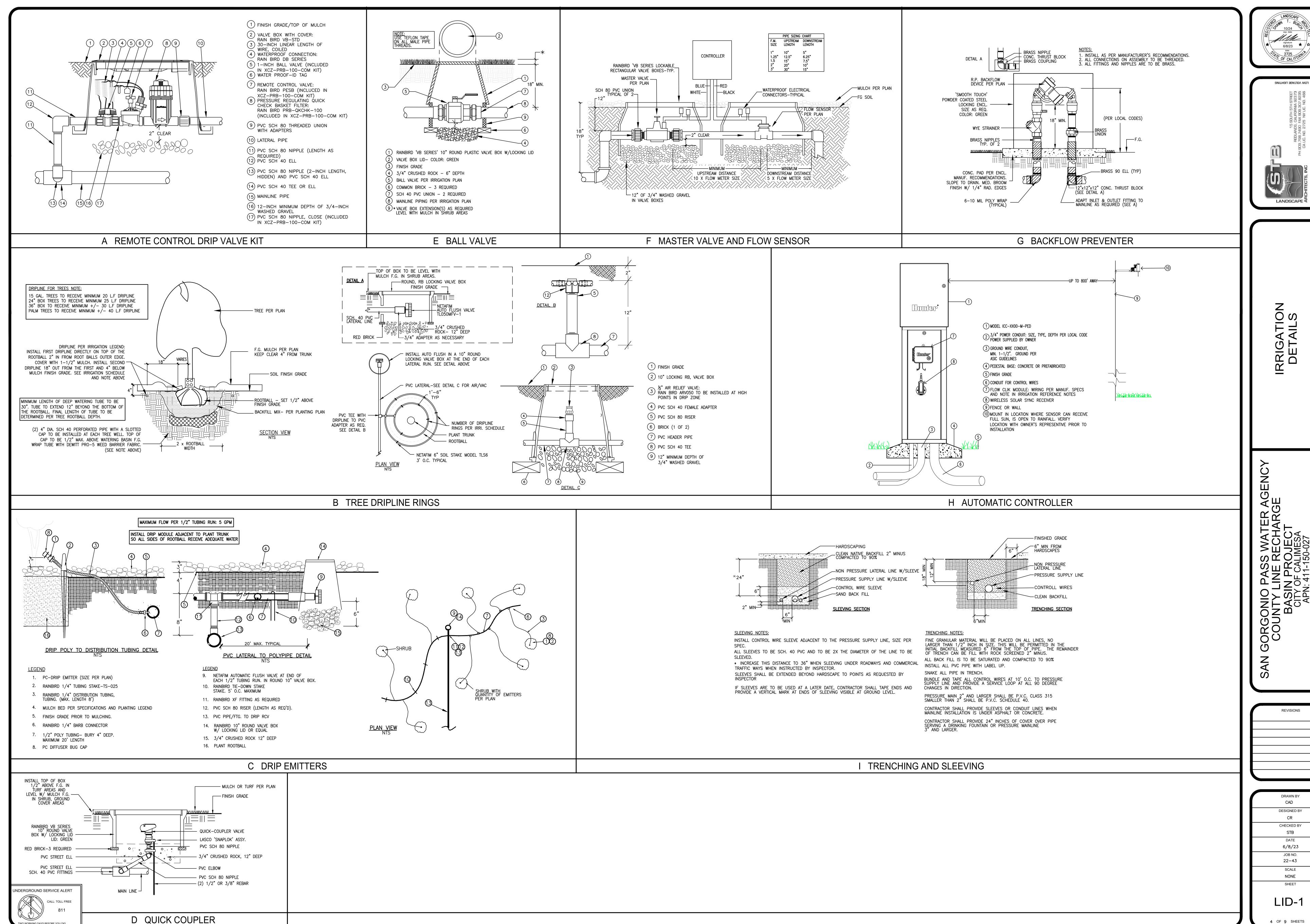
SAN GORGONIO PASS WALER AGEN COUNTY LINE RECHARGE BASIN PROJECT CITY OF CALIMESA APN: 411-150-027



DRAWN BY
CAD
DESIGNED BY
CR
CHECKED BY
STB
DATE
6/8/23
JOB NO.
22–43
SCALE
1"=20'
SHEET
11-2

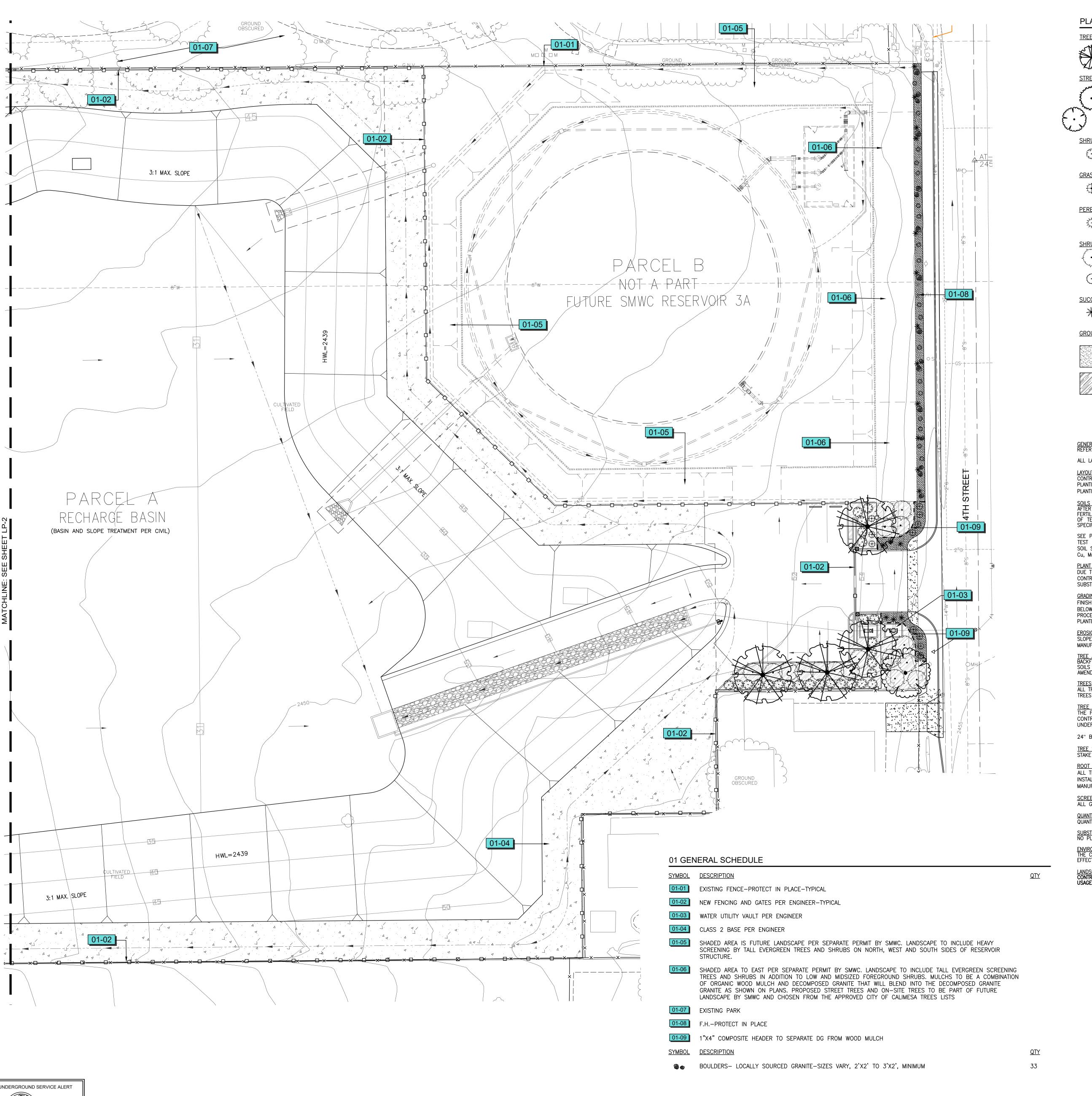
Scale 1" = 20'

REFER TO SHEET LI-1 FOR IRRIGATION NOTES
REFER TO SHEET LID-1 FOR IRRIGATION DETAILS
REFER TO SHEET LIS-1 FOR IRRIGATION SPECIFICATIONS









	PLANT SCHE	DULE				
	<u>TREES</u>	QTY	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WUCOLS
		4	PROSOPIS ALBA COLORADO	COLORADO MESQUITE	24" BOX	LOW
	STREET TREES	QTY	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WUCOLS
<b>۲</b>	2 - E	6	PINUS ELDARICA	AFGHAN PINE	24" BOX	LOW
	٠ کم	1	PODOCARPUS GRACILIOR	FERN PINE	24" BOX	MOD
	<u>SHRUBS</u>	QTY	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WULCOS
	6 . 2 . 2 . 2 . 2 . 2 . 2 . 2 . 2 . 2 .	26	LEUCOPHYLLUM FRUTESCENS 'GREEN CLOUD' TM	GREEN CLOUD TEXAS SAGE	5 GAL.	LOW
	<u>GRASSES</u>	QTY	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WULCOS
	**************************************	18	MUHLENBERGIA CAPILLARIS 'REGAL MIST' TM	REGAL MIST PINK MUHLY GRASS	1 GAL.	LOW
	<u>PERENNIALS</u>	QTY	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WULCOS
	The state of the s	22	KNIPHOFIA UVARIA 'PFITZER'S HYBRID MIX'	KNIPHOFIA RED HOT POKER	5 GAL.	LOW
	SHRUB COVER	QTY	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WULCOS
	{ · }	27	ACACIA REDOLENS 'LOW BOY'	LOW BOY BANK CATCLAW	5 GAL.	LOW
	$\odot$	25	JUNIPERUS SQUAMATA 'BLUE CARPET'	BLUE CARPET JUNIPER	5 GAL.	LOW
	SUCCULENTS	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WULCOS
	*	24	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL.	LOW
	GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	WUCOLS
		3,248 SF	DECOMPOSED GRANITE, COLOR: BRIMSTONE AVAIL THRU SOUTHWEST BOULDER	STABILIZED: 6LBS/ TON	3" DEEP	

#### PLANTING NOTES

<u>GENERAL NOTES:</u>
REFER TO PROJECT PLANTING SPECIFICATIONS ON SHEET LPS-1 FOR COMPLETE PLANTING SPECIFICATIONS.

2,465 SF WOOD MULCH REDWOOD GORILLAR HAIR AVAIL THRU EARTHWORKS

ALL LANDSCAPE INSTALLATION SHALL BE PERFORMED BY A LICENSED CONTRACTOR WITH A C-27 LICENSE OR GREATER.

REFER TO SHEET LPD-1 FOR PLANTING DETAILS

REFER TO SHEET LPS-1 FOR PLANTING SPECIFICATIONS

LAYOUT OF ELEMENTS:
CONTRACTOR SHALL SCALE ALL PLANT MATERIALS OFF THE PLANS TO DETERMINE THEIR APPROXIMATE LOCATIONS. REFER TO PLANT SPACING NOTES IN THE PLANTING LEGEND. MAINTAIN A DISTANCE FROM ALL HARDSCAPE ELEMENTS AND GROUND COVERS ONE—HALF THE AMOUNT OF THE SPACING INDICATED IN THE PLANTING LEGEND OR 1/2 THE SCALED DIMENSION OF THE SHRUB.

SOILS TEST:

AFTER ALL ROUGH GRADING HAS BEEN COMPLETED BUT PRIOR TO SOIL PREPARATION, THE CONTRACTOR SHALL OBTAIN A SOIL TEST FOR AGRICULTURAL SUITABILITY, FERTILITY AND WATER INFILTRATION RATE. TEST SHALL BE PREPARED BY A CALIFORNIA ASSOCIATION OF AGRICULTURAL LABORATORIES MEMBER. FURNISH ONE COPY OF TEST RESULTS TO THE LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO COMMENCING WITH SOIL CONDITIONING. SOILS TEST REPORT SHALL SUPERSEDE ALL SPECIFICATIONS. SOILS TESTING FACILITY SHALL BE INFORMED OF THE REQUIREMENT OF USING ESTABLISH AMENDMENTS PER PLANTING SPECIFICATIONS. SEE PLANTING SPECIFICATIONS FOR MINIMAL AMENDMENTS TO BE USED FOR BID PURPOSES. ALL FINAL SOIL CONDITIONING AND AMENDING SHALL BE PER SOILS TEST RECOMMENDATIONS. TEST SHALL INCLUDE THE FOLLOWING ITEMS: SOIL TYPE (TEXTURE), PH, TOTAL SOLUBLE SALTS (BY ELECTRICAL CONDUCTIVITY OF THE SOIL SATURATION EXTRACT), BORON LEVEL, EXCHANGEABLE SODIUM PERCENTAGE, NUTRIENTS (N.P.K.), MICRO NUTRIENTS (NO.3, NH4, P, K, Ca, Mg, Na, B, Zn, Fe, Cu, Mn, S), PERCOLATION, % OF ORGANIC MATTER, CATION EXCHANGE CAPACITY, BASE SATURATION, EXCESS LIME OR CARBONATES.

DUE TO POTENTIAL PLANT MATERIAL SHORTAGES. IT IS THE CONTRACTOR'S RESPONSIBILITY, UPON AWARD OF THE CONTRACT, TO IMMEDIATELY PROCURE, THGROUGH CONTRACT GROWING OR OTHER MEANS, ALL PLANT MATERIAL CALLED OUT ON THESE PLANS AND GUARANTEE THEIR AVAILABILITY AT THE TIME OF PLANTING. SUBSTITUTIONS WILL NOT BE ACCEPTED.

FINISH GRADE OF SOIL IN ALL SHRUB PLANTER AREAS (UNLESS OTHERWISE INDICATED) SHALL BE ESTABLISHED SO FINISH GRADE OF SPECIFIED MULCH IS 1/2"
BELOW ADJACENT WALKS, CURBS OR PAVING AND BE FREE OF ROCKS OVER 1" IN SIZE IN THE TOP 2" OF SOIL. EXCESS SOIL CREATED DURING THE AMENDING PROCESS SHALL NOT REMAIN ON SITE. ALL ESTABLISHED FLOW—LINES SHALL BE MAINTAINED. CONTRACTOR SHALL GUARANTEE POSITIVE DRAINAGE FROM ALL

EROSION CONTROL:
SLOPES EXCEEDING 3:1 SHALL RECEIVE EROSION CONTROL NETTING EQUAL TO WESTERN EXCELSIOR #EXCEL CC-4. NETTING TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND STAPLED AS REQUIRED.

TREE AND SHRUB PLANTING:
BACKFILL MIX FOR TREES AND SHRUBS SHALL CONSIST OF A MINIMUM OF 70% CLEAN ON—SITE SOIL AND 30% CUSTOM AMENDMENT MIX WCP—33. REFER TO SOILS TEST RESULT REQUIRED ABOVE FOR FINAL BACKFILL RECOMMENDATIONS. PLANT PER DETAIL SHEET LPD—1. ALL EXCESS SOIL CREATED DURING THE AMENDING PROCESS SHALL BE REMOVED FROM SITE AND LEGALLY DISPOSED OF.

TREES:
ALL TREES SHALL HAVE COMPARATIVELY STRAIGHT TRUNKS, WELL-DEVELOPED LEADERS, AND TOPS AND ROOTS CHARACTERISTIC OF THE SPECIES OR VARIETY. ALL TREES MUST BE FREE OF INSECTS, DISEASE, MECHANICAL INJURIES, AND OTHER OBJECTIONABLE FEATURES AT THE TIME OF PLANTING.

TREE SIZES:
THE FOLLOWING ARE THE EXPECTED CALIPER WIDTHS FOR VARIOUS CONTAINER SIZES. IF A TREE DOES NOT MEET THE MINIMUM LISTED SIZE, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, INCREASE THE SPECIFIED CONTAINER SIZE TO MEET THE EXPECTED CALIPER. IT IS UNDERSTOOD THAT CERTAIN TREE SPECIES WILL BE "EXCEPTIONS" TO THESE STANDARDS AND WILL BE NEGOTIATED ON A CASE BY CASE BASIS.

TREE STAKING: STAKE ALL TREES PER DETAIL ON SHEET LPD-1. ALL STAKES SHALL EXTEND A MINIMUM OF 12" BELOW THE PLANTING PIT.

ALL TREES PLANTED WITHIN EIGHT FEET OF PROPERTY LINES, WALLS, CURBS, PAVING OR HARDSCAPE ELEMENTS SHALL HAVE TYPAR 'BIO-BARRIER' FABRIC INSTALLED FOR A MINIMUM LENGTH OF TWELVE FEET, MINIMUM DEPTH 29", ALONG CURB FACE/PAVING IN FRONT OF SAID TREE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND PER DETAIL SHEET LPD-1.

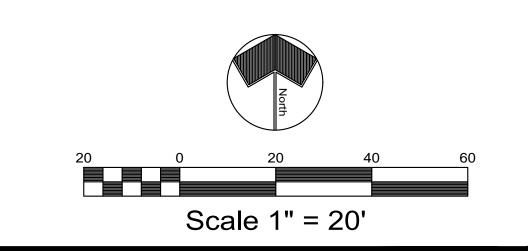
SCREENING:
ALL GROUND MOUNTED EQUIPMENT SHALL BE SCREENED. CONTRACTOR SHALL LOCATE SHRUBS TO PROVIDE THIS SCREENING AS REQUIRED BY THE CITY

QUANTITIES:
QUANTITIES SHOWN ARE AN AID ONLY, CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO BIDDING/ COMMENCING WORK.

SUBSTITUTIONS:
NO PLANT SUBSTITUTIONS WILL BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.

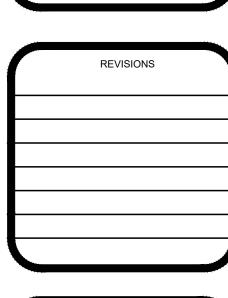
ENVIRONMENTAL ISSUES:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL STORM WATER PHASE I AND II RULES AND ANY OTHER ENVIRONMENTAL PROTECTION LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.

LANDSCAPE CERTIFICATIONS/DOCUMENTATION:
CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING, AND COMPLYING WITH, ALL STATE AND LOCAL ORDINANCES REGARDING THE WATER USAGE CERTIFICATIONS ON THIS PROJECT SITE.









DESIGNED BY 6/8/23 1"=20'

01 GENERAL SCHEDULE

GROUND COVERS QTY

PLANT SCHEDULE

<u>SHRUBS</u>

<u>GRASSES</u>

<u>PERENNIALS</u>

SHRUB COVER

SYMBOL DESCRIPTION

<u>Q</u>:

01-01 EXISTING FENCE—PROTECT IN PLACE—TYPICAL

01-02 NEW FENCING AND GATES PER ENGINEER—TYPICAL

01-03 WATER UTILITY VAULT PER ENGINEER

01-04 CLASS 2 BASE PER ENGINEER

SHADED AREA IS FUTURE LANDSCAPE PER SEPARATE PERMIT BY SMWC. LANDSCAPE TO INCLUDE HEAVY SCREENING BY TALL EVERGREEN TREES AND SHRUBS ON NORTH, WEST AND SOUTH SIDES OF RESERVOIR

SHADED AREA TO EAST PER SEPARATE PERMIT BY SMWC. LANDSCAPE TO INCLUDE TALL EVERGREEN SCREENING TREES AND SHRUBS IN ADDITION TO LOW AND MIDSIZED FOREGROUND SHRUBS. MULCHS TO BE A COMBINATION OF ORGANIC WOOD MULCH AND DECOMPOSED GRANITE THAT WILL BLEND INTO THE DECOMPOSED GRANITE GRANITE AS SHOWN ON PLANS. PROPOSED STREET TREES AND ON—SITE TREES TO BE PART OF FUTURE LANDSCAPE BY SMWC AND CHOSEN FROM THE APPROVED CITY OF CALIMESA TREES LISTS

01-07 EXISTING PARK

01-08 F.H.-PROTECT IN PLACE

1"X4" COMPOSITE HEADER TO SEPARATE DG FROM WOOD MULCH

SYMBOL DESCRIPTION

BOULDERS- LOCALLY SOURCED GRANITE-SIZES VARY, 2'X2' TO 3'X2', MINIMUM

<u>QTY</u>

20 0 20 40 60

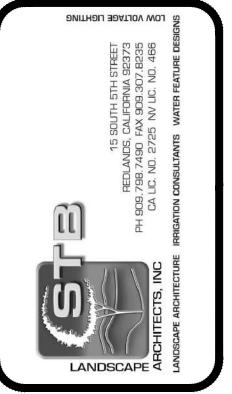
Scale 1" = 20'

LANDSCAPE
T. BURGAR

10/24
exp. date

10/24
exp. date

6/8/23
date
27/25
OF CALIFORNIA



PLANTING PLAN

N GORGONIO PASS WATER AGEN COUNTY LINE RECHARGE BASIN PROJECT CITY OF CALIMESA

REVISIONS

DRAWN BY
CAD
DESIGNED BY
CR
CHECKED BY
STB
DATE
6/8/23
JOB NO.
22–43
SCALE
1"=20'
CHEET

LP-1

REFER TO SHEET LP-1 FOR PLANTING NOTES
REFER TO SHEET LPD-1 FOR PLANTING DETAILS
REFER TO SHEET LPS-1 FOR PLANTING SPECIFICATIONS

V M M

HWL=2439

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PARSEL A
RICHARD BASN
SOLVET TOURS TO SALL

S' DELP E-EVATION
CONTROL BASN
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TO SALL

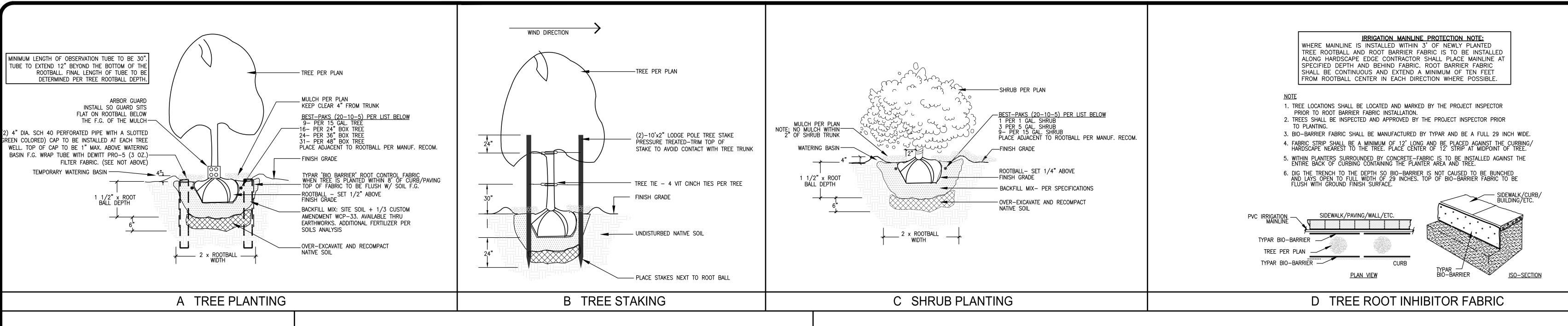
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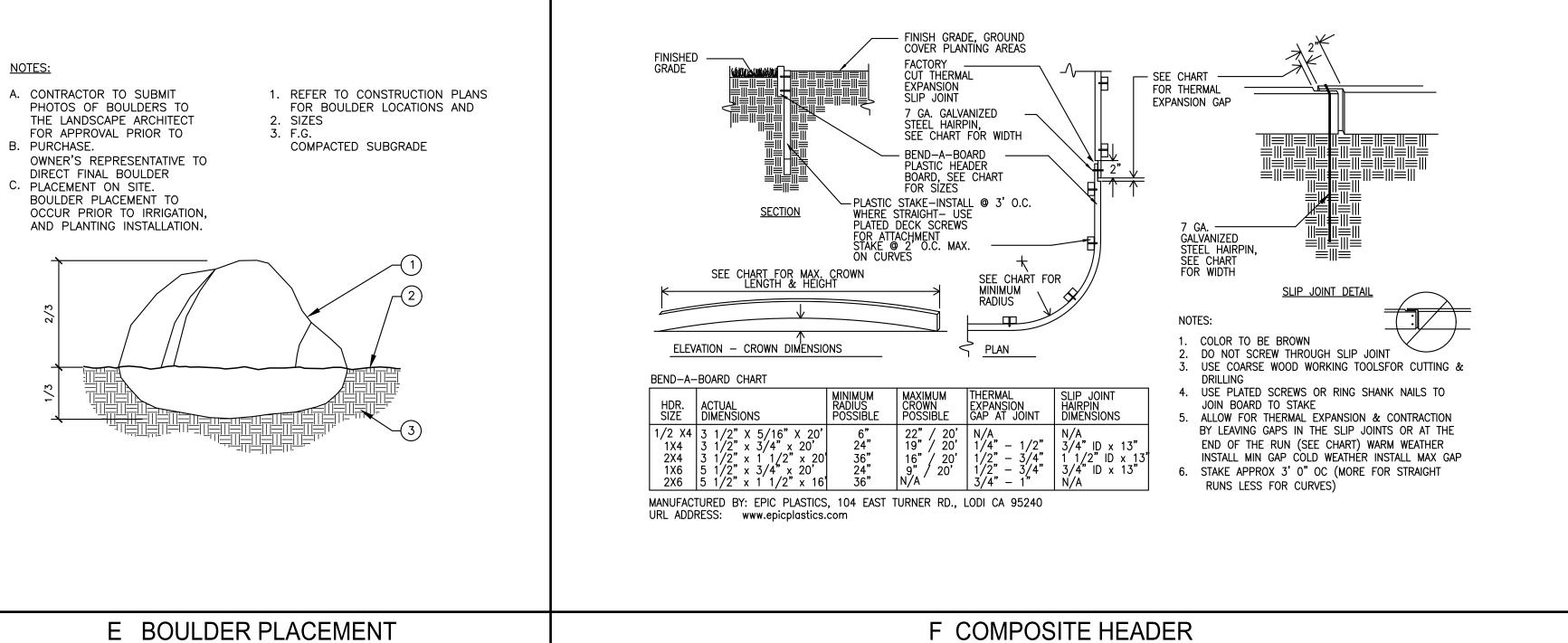
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BUENA VISTA COURT

UNDERGROUND SERVICE ALERT

____x____x__





PRESSURE LOSS	CALCULATIONS	
(STATION: 4 @ 9 GP	M) WITH 80 STATIC	
EQUIPMENT	SIZE	LOSS
WATER METER	3/4"	1.3
BACKFLOW DEVICE		12
MASTER VALVE	1"	0
ELEVATION CHANGE	-17'	<7>
MAINLINE: 900 L.F. @ .56	1.25"	5
CONTROL VALVE	1"	3
LATERAL LINES	VARIES	2
SUBTOTAL PRESSURE LOSSES		16.3
MISC. LOSSES THRU SYSTEM (10	)%)	2
TOTAL PRESSURE LOSSES		18.3
PRESSURE REQUIRED AT HEAD		10
TOTAL PRESSURE REQUIRED		28.3
STATIC PRESSURE AVAILABLE		80
RESIDUAL PRESSURE		51.7

Gal Per Plant/Day= <u>623(plan</u> The	tarea)( plant facto decimal equivaler	ri(Peak Daily	E.T.)	ANNUAL E.T.	55.60											
	ationefficiencyo			PEAK E.T.	7.90											
c.	limate type.			MONTHLY ETo	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					2.00	2,60	3.80	4.60	5.70	6.90	7.90	7.40	5.90	4.20	2.60	2.00
		SYSTEM R	UN TIM												*****	22.0
PLANTS AT PLANTING				STA: SHRUBS	JAN	FEB	MAR		MAY	JUN	JUL	AUG	SEP		NOV	
	Gal/Day/	GPH	MIN.	MIN PER CYC:	2	3	4	3	3	4	4	4	5	3	3	2
SHRUBS:	Plant		2.15	CYCLES:	1	1	1	1	1	1	1	1	1	1 2	1	1
0.623 3 03 0.25 = 0.81	0.18	5	2.12	SKIP DAYS:	3	3	3	1	1	1	1	1	2	2	3	3
PLANTS AT MATURIT	Y EMITTERS	~		STA: SHRUBS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC
	Gal/Day/	GPH	MIN.	MIN PER CYC:	21	31	41	19	23	29	32	30	25	17	29	21
SHRUBS:	Plant			CYCLES:	1	1	1	2 2	2	2 2	2 2	2 2	2	2 2	1	1
0.623 30 0.3 0.25 = 0.81	1.76	5	21.17	SKIP DAYS:	3	3	3	2	2	2	2	2	2	2	3	3
PLANTS AT PLANTING	: DRIPLINE			STA: TREE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC
	Gal/Day/	GPH	MIN.	MIN PER CYC:	5	5	5	2	2	2	2	2	2	2	5	5
TREE:	Plant	111111111111111111111111111111111111111	or constant	CYCLES:	1	1	1	1	1	1	1	1	1	1	1	1
0.623 20 03 0.25 = 0.81	1.18	23	3.07	SKIP DAYS:	3	3	3	1	1	1	1	1	1	2	3	3
PLANTS AT MATURIT	Y DRIPLINE			STA: TREE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC
	Gal/Day/	GPH	MIN.	MIN PER CYC:	35	39	35	36	35	36	35	35	36	35	36	35
TREE:	Plant		THE COURSE	CYCLES:	2	2	2	1	1	1	1	1	1	1 2	2	2
0.623 300 03 0.25 =								2	2	2	2	2	2			

WATERING SCHEDULE:

THE SCHEDULE SHOWN IS FOR GUIDE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO PROGRAM THE CONTROLLER AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS AND EXISTING ENVIRONMENTAL FACTORS. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE INTO ASSURE THAT ALL PLANTING RECEIVES ADEQUATE WATER FOR STRONG HEALTHY AND SUSTAINED GROWTH.

	Califo	mia Wate	r Efficient Lar	ndscape	Worksheet		
Reference Evapotranspi	iration (ET₀)	55.6	Proj	ect Type	Non-Resid	ential	0.45
Hydrozone # / Planting	Plant	Irrigation	Irrigation	ETAF	Landscape	ETAF x	Estimated Total
Description ^a	Factor (PF)	Method ^b	Efficiency (IE) ^c	(PF/IE)	Area (Sq. Ft.)	Area	Water Use (ETWU) ^d
Regular Landscape A	Areas						
TREES/SHRUBS	0.3	Drip	0.81	0.37	5,713	2116	72940
		Drip	0.81	0.00		0	
			7 				
Special Landscape A	reas			Totals	5713	2116	72940
				1		0	00
				Totals	0	0	C
					ETIA	/U Total	70040
					LIV	o rotai	72940
		N	/laximum Allow	ved Wate			72940 88622
ETAF Calculations		N			er Allowance (I		
Regular Landscape Ar			Average ETA	F for Reg	er Allowance (I jular		
Regular Landscape Ar Total ETAF x Area	2116		Average ETA Landscape A	F for Regreas mus	er Allowance (I gular st be 0.55 or		
Regular Landscape Ar			Average ETA Landscape A below for res	F for Reg reas mus	er Allowance (I gular st be 0.55 or areas, and		
Regular Landscape Ar Total ETAF x Area	2116		Average ETA Landscape A	F for Reg reas mus	er Allowance (I gular st be 0.55 or areas, and		
Regular Landscape Ar Total ETAF x Area Total Area	2116 5713		Average ETA Landscape A below for res 0.45 or below	F for Reg reas mus	er Allowance (I gular st be 0.55 or areas, and		
Regular Landscape Ar Total ETAF x Area Total Area Average ETAF All Landscape Areas Total ETAF x Area	2116 5713 0.37		Average ETA Landscape A below for res 0.45 or below	F for Reg reas mus	er Allowance (I gular st be 0.55 or areas, and		
Regular Landscape Ar Total ETAF x Area Total Area Average ETAF All Landscape Areas	2116 5713 0.37		Average ETA Landscape A below for res 0.45 or below	F for Reg reas mus	er Allowance (I gular st be 0.55 or areas, and		

MAINTENANCE RESPONSIBILITY NOTE:

THE OWNER WILL BE RESPONSIBLE FOR ALL MAINTENANCE AND WATER MANAGEMENT WITHIN THEIR PROPERTY.

#### LANDSCAPE AND IRRIGATION MAINTENANCE SCHEDULE:

- A. LANDSCAPES SHALL BE MAINTAINED TO ENSURE WATER USE EFFICIENCY. A REGULAR MAINTENANCE SCHEDULE SHALL BE SUBMITTED WITH THE RECORD OF COMPLETION.
- B. A REGULAR MAINTENANCE SCHEDULE SHALL INCLUDE BUT NOT BE LIMITED TO ROUTINE INSPECTION; ADJUSTING, AND REPAIRING OF THE IRRIGATION SYSTEM AND ITS COMPONENTS; AERATING AND DETHATCHING TURF AREAS; REPLENISHING MULCH; FERTILIZING; PRUNING, AND WEEDING IN ALL LANDSCAPED AREAS, AND REMOVING OBSTRUCTIONS TO EMISSION DEVICES. OPERATION OF THE IRRIGATION SYSTEM OUTSIDE THE NORMAL WATERING WINDOW IS ALLOWED FOR AUDITING AND SYSTEM
- C. REPAIR OF ALL IRRIGATION EQUIPMENT SHALL BE DONE WITH THE ORIGINALLY INSTALLED COMPONENTS OR THEIR EQUIVALENTS OR WITH COMPONENTS OF GREATER EFFICIENCY.
- D. APPLICANT IS ENCOURAGED TO IMPLEMENT SUSTAINABLE OR ENVIRONMENTALLY—FRIENDLY PRACTICES FOR OVERALL LANDSCAPE MAINTENANCE ACTIVITIES.

#### IRRIGATION AUDIT, IRRIGATION SURVEY, AND IRRIGATION WATER USE ANALYSIS

ALL LANDSCAPE IRRIGATION AUDITS SHALL BE CONDUCTED BY AN I.A. CERTIFIED LANDSCAPE IRRIGATION AUDITOR. LANDSCAPE AUDITS SHALL NOT BE CONDUCTED BY THE PERSON WHO DESIGNED THE LANDSCAPE OR INSTALLED THE LANDSCAPE. FOR NEW CONSTRUCTION AND REHABILITATED LANDSCAPE PROJECTS INSTALLED AFTER DECEMBER 1, 2015, AS DESCRIBED IN 490.1, 1) THE PROJECT APPLICANT SHALL SUBMIT AN IRRIGATION AUDIT REPORT WITH THE RECORD OF COMPLETION TO THE LOCAL AGENCY THAT MAY INCLUDE, BUT NOT BE LIMITED TO: INSPECTION, SYSTEM TUNE—UP, SYSTEM TEST WITH DISTRIBUTION UNIFORMITY, REPORTING OVERSPRAY OR RUN—OFF THAT CAUSES OVERLAND FLOW, AND PREPARATION OF AN IRRIGATION SCHEDULE, INCLUDING CONFIGURING IRRIGATION CONTROLLERS WITH APPLICATION RATE, SOIL TYPES, PLANT FACTORS, SLOPE, EXPOSURE, AND ANY OTHER FACTORS NECESSARY FOR ACCURATE PROGRAMMING.

#### SOIL MANAGEMENT REPORT

- (A) IN ORDER TO REDUCE RUNOFF AND ENCOURAGE HEALTHY PLANT GROWTH, A SOIL MANAGEMENT REPORT SHALL BE COMPLETED BY THE PROJECT APPLICANT, OR HIS/HER DESIGNEE, AS FOLLOWS:
   (1) SUBMIT SOIL SAMPLES TO A LABORATORY FOR ANALYSIS AND RECOMMENDATIONS.
   (A) SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS
- REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS.

  (B) THE SOIL ANALYSIS MAY INCLUDE:
- 2. INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE;
- 3. PH;
  4. TOTAL SOLUBLE SALTS;
  5. SODIUM:
- 6. PERCENT ORGANIC MATTER; AND 7. RECOMMENDATIONS.
- (2) THE PROJECT APPLICANT, OR HIS/HER DESIGNEE, SHALL COMPLY WITH ONE OF THE FOLLOWING:

  (A) IF SIGNIFICANT MASS GRADING IS NOT PLANNED, THE SOIL ANALYSIS REPORT SHALL BE SUBMITTED TO THE LOCAL AGENCY AS PART OF THE LANDSCAPE DOCUMENTATION PACKAGE; OR

  (B) IF SIGNIFICANT MASS GRADING IS PLANNED, THE SOIL ANALYSIS REPORT SHALL BE SUBMITTED TO THE LOCAL AGENCY AS PART OF THE CERTIFICATE OF COMPLETION.
- (3) THE SOIL ANALYSIS REPORT SHALL BE MADE AVAILABLE, IN A TIMELY MANNER, TO THE PROFESSIONALS PREPARING THE LANDSCAPE DESIGN PLANS AND IRRIGATION DESIGN PLANS TO MAKE ANY NECESSARY ADJUSTMENTS TO
- THE DESIGN PLANS.

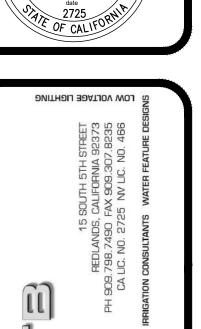
  (4) THE PROJECT APPLICANT, OR HIS/HER DESIGNEE, SHALL SUBMIT DOCUMENTATION VERIFYING IMPLEMENTATION OF SOIL ANALYSIS REPORT RECOMMENDATIONS TO THE LOCAL AGENCY WITH CERTIFICATE OF COMPLETION.

STB LANDSCAPE ARCHITECTS, INC HAS COMPLIED WITH THE LATEST CRITERIA OF STATE OF CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE CODE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE IRRIGATION AND PLANTING DESIGN PLANS.

#### WATER CONSERVATION STATEMENT:

STB LANDSCAPE ARCHITECT'S, Inc. HAS FOLLOWED AND MET ALL WATER CONSERVATION REQUIREMENTS SET FORTH IN BOTH THE CITY AND STATE ORDINANCES. STB HAS ACHIEVED THESE GOALS THROUGH THE USE OF HIGHLY EFFICIENT DRIPLINES AND EMITTERS TO ALL PLANTED AREAS, COMBINED WITH A "SMART" E.T. BASED CONTROLLER AND RAIN SHUT-OFF DEVICE. THE CONTROLLER WILL RECEIVE E.T. INFORMATION THAT WILL ALLOW THE CONTROLLER TO UP-DATE R.C.V. RUN TIMES ON A DAILY BASIS THEREBY REDUCING THE NEED FOR MANUALLY ADJUSTING THE CONTROLLER FOR WEEKLY OR SEASONAL WEATHER CHANGES





LANDSCAPE S

LANTING DETAILS AND WATER USE CALCULATIONS

GORGONIO PASS WATER AGEN COUNTY LINE RECHARGE BASIN PROJECT CITY OF CALIMESA APN: 411-150-027 PROJECT DESCRIPTION

REVISIONS

DRAWN BY
CAD

DESIGNED BY
CR
CHECKED BY
STB
DATE
6/8/23

NONE
SHEET

LPD-1

UNDERGROUND SERVICE ALERT

CALL: TOLL FREE

811

**DUITHOLI BOATJOV WO.** 

LIS-1

.1 Install a new underground irrigation system as shown and specified. Furnish labor, materials, equipment, appliances and services necessary for the execution and completion of .1 Provide the following submittals to the Client's Representative for approval prior to commencing any irrigation construction: No substitutions will be allowed without prior written approval of the Client's Manufacturer's product data for all proposed irrigation equipment indicated on the drawings-ie: sprinklers, driplines, emitters, bubblers, control valves, controllers, wiring, piping, fittings, valve boxes, Equipment or materials installed or furnished without the prior approval of the Client'S Representative may be rejected and such material removed from the site at no expense to the Client. Approval of any items, alternates, or substitutes indicates only that product(s) apparently meet the requirements of the drawings and specifications on the basis of the information or samples Manufacturer's warranties shall not relieve liability under the guarantee. Such warranties shall only supplement the guarantee. The Client's Representative may, at his option, require a manufacturer's .2 The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the Clients' Representative. Prior to final inspection of work, submit record drawings to the .3 Dimension from two permanent points of reference (buildings, monuments, sidewalks, curbs, pavement, etc.). Data to be shown on record drawings shall be recorded day to day as the project is being installed and shall be made available to the Client's Representative upon request. All lettering on drawings shall be minimum 1/8 inch in size. .5 Maintain record drawings on site at all times. Upon completion of work, transfer all record drawing information and dimensions, in ink, to reproducible prints available from Client's Representative at cost. Pressure test of all new irrigation main lines. Test at 150 P.S.I. for four hours. Contractor shall provide all required test pumps, gauges and temporary isolation valves as required. .3 Do not allow or cause the above items to be buried prior to inspection and approval by the Client's's Representative. A 72-hour notice shall be given prior to anticipated inspections. .4 When inspections have been conducted by other than the Client's Representative, the Contractor shall show evidence of when and by whom these inspections were made and who authorized.

.5 No inspection will commence without record prints. In the event the Contractor calls for an inspection without up to date record prints, without completing previously noted corrections, or without preparing the system for inspection, the inspection will be canceled and the Contractor back charged for the direct costs of all personnel time and consultant time lost.

.6 Closing in Uninspected Work: .1 Do not allow or cause any of the work of this section to be covered up or enclosed until it has been inspected, tested, and approved by the Client's Representative. Day and night barricades .1 Record drawings: Must be reviewed by the Client's Representative before charts are prepared.
2 Provide one controller chart for each automatic controller. Chart shall show the area covered by the controller and color—coded legend with corresponding irrigation control valves with each The chart is to be a reduced copy of the actual record drawing. In the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a readable size. Chart shall be a black line print with a different color used to show the area of coverage for each station. Chart shall be approved by the Client's Representative prior to final approval. Contractor shall provide Client five (5) spare sprinkler heads and emission devices of each model used including full nozzle sets and two (2) of any specialty or proprietary tools required to Contractor shall provide Client's two (2) Quick Coupler key assemblies including swivel and one 1" commercial grade 75-foot hose, and two (2) cap keys to open Quick Coupler cap. Prepare and deliver to the Client's Representative within ten days by calendar prior to completion of construction, all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in individual bound copies of the operation and maintenance manual. The manual shall describe the material installed and shall be in sufficient detail to permit the operating personnel to understand, operate, and maintain all equipment. Spare parts lists and related manufacturer information shall be included for each equipment item installed. Binders may be standard 3—ring type or similar permanent type clearly labeled on front and spine. .4 Contractor shall provide the Client's with any and all other accessories, keys, installation, repair, maintenance instructions, rebate forms, or other items included with equipment and supplies from .5 The above equipment shall be turned over to the Client at the conclusion of the project. Before final acceptance can occur, evidence that the Client has received materials must be shown to the .6 In addition to the above maintenance manuals, provide the maintenance personnel with instructions for major equipment and show written evidence to the Client's Representative at the conclusion .1 General: All work done under this contract, shall be quaranteed against all defects and fault of material and workmanship for a period of one (I) year following the filing of the Notice of Completion. All .2 Should any problem with the irrigation system be discovered within the quarantee period, it shall be corrected by the Contractor at no additional expense to the Client's within ten (10) calendar days of receipt of written notice from the Client's. When the nature of the repairs as determined by the Client's constitute an emergency (e.g. broken pressure line) the Client's may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect expected. We agree to repair or replace any defects in materials or workmanship which may develop during the period of one year from date of filing of the Notice of Completion and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Client's. We shall make such repairs or replacements within 10 calendar days following written notification by the Client's. In the event of our failure to make such repairs or replacements within 10 calendar days following written notification by the Client's. In the event of our failure to make such repairs or replacements within 10 calendar days following written notification by the Client's. after receipt of written notice from the Client's, we authorize the Client's to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon .4 After the system has been completed; the Contractor shall instruct the Client's in the operation and maintenance of the system and shall furnish two complete sets of operating instructions.

.7 Materials:

<u>WATER SUPPLY</u>

2.4 <u>PVC_CONDUIT/SLEEVING</u> indicated in details and Legend. Thrust blocks shall be provided as required for proper anchorage and durability of the ring-tite pipe. (Refer to Details) 2.6 ADJUSTABLE ARC, ADJUSTABLE RADIUS, MATCHED PRECIPITATION RATE, MULTI-STREAM, MULTI-TRAJECTORY, ROTATING STREAM SPRINKLER 1. The sprinkler and nozzles shall be as indicated in the Irrigation Legend or approved equal. 2.7 <u>ELECTRIC CONTROLLERS and ENCLOSURES</u> 1 The automatic controller shall be as indicated in the Irrigation legend. 2 All wiring to and from the controller shall be through color—coded fittings. 3 Contractor to install a grounding rod for all inclosure installed controllers per local electrical codes and manufacturers recommendations. 2.8 <u>ELECTRIC CONTROL VALVES</u> 1 The electric remote control valve shall be as indicated in the Irrigation Legend. The valve pressure rating shall not be less than 200 psi.
2 The valve shall be capable of being operated in the field manually without electricity using a bleed valve or equal.
3 The valve shall be capable of being serviced in the field without removing it from the supply line. 2.9 <u>DRIP IRRIGATION COMPONENTS</u> .1 Provide Drip Control Zone Kits as indicated in the Irrigation Legend. .2 The drip tubing shall be as specified in the Irrigation Legend. 2.10 QUICK COUPLER VALVES with detent positions for regulating water flow. 2.11 <u>WIRING, LOW VOLTAGE</u> Connections between the controller and remote control valves shall be made with valve manufacturer's wire chart and specifications. Wiring shall occupy the same trench and shall be installed along with the same route as the pressure supply lines wherever possible. Where more than one wire is placed in a trench, the wiring shall be taped together at intervals of 10 feet. connection and directional turn. .5 Sizing of wire shall be according to manufacturer recommendations, in no case less than AWG #12 gauge unless otherwise noted. 7 All ground wires shall be white AWG #12 size. spare in the controller. Loop wires into each valve box along the mainline run. .9 Provide a tracer wire over all new mainline installations. 2.12 <u>BACKFLOW PREVENTERS</u> .1 Shall be Reduced Pressure type listed in the Irrigation Legend or approved equal. 2.13 <u>VALVE BOXES</u> The valve box shall be made of structural foam HDPE resin that is resistant to UV light, weather, moisture, and chemical action of soils. 4. Extension models shall have vertical ribs inside that make them capable of being mounted directly over the top of another box. marking area measuring at least 6" by 2" that is suitable for branding or other means of identification. 8. The locking bolt, washer, and clip shall be made of stainless steel. 9. The valve box shall be manufactured by Rain Bird Corporation, Azusa, California, or approved equal. 2.14 GATE AND BALL VALVES Approved gate and ball valves shall be as indicated in the Irrigation Legend. Size and location shall be as indicated on Plan. 2.15 ELECTRICAL, HIGH VOLTAGE .1 Power to and connection to the automatic controller shall be provided by the Client. .2 All electrical equipment outside of buildings shall be Nema 3 type, waterproof for such installation .3 All high voltage work shall be installed under this section. Refer to Wiring, Low Voltage for additional information PART 3 - EXECUTION 3.1 GENERAL .1 Layout: .2 Diagrammatic Intent: Do not willfully install the sprinkler system as indicated on the drawings when it is obvious in the field that unknown obstructions or grade differences exist, that might not have been considered in the engineering or if discrepancies in construction details, legend, or specific notes are discovered. All such obstructions or discrepancies should be brought to the attention of the Client's Representative. In the event this is not done, the Contractor must assume full responsibility for revisions necessary. Before any work commences, confer with the Client's Representative regarding general details of work of this contract. .3 Grades: Before starting work, carefully check grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade. .4 Inspections: Prior to all work of this section carefully inspect the installed work of other trades and verify that all work is complete to the point where installation may properly Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations .5 Discrepancies: .1 In the event of discrepancy notify the Landscape Architect and Client's Representative. The Landscape Architect shall be responsible for the interpretation of any Do not proceed with installation in areas of discrepancy until all discrepancies have been resolved. Layout sprinkler heads and make any minor adjustments required due to differences between site and drawings. Any such deviations in layout shall be within the intent of the original drawings, and without additional cost to the Client. Layout shall be approved by the Client's Representative before installation. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Contractor shall coordinate the installation of all irrigation materials with all other work.

.1 Materials shall be of first quality and of domestic manufacturer whenever possible unless otherwise noted.

Connections at the point of connection (POC) shall be at the approximate location(s) shown in the drawings. Minor changes caused by actual site conditions shall be made without additional cost to the Client.

.1 Pipe that is used for control wires sleeving shall be PVC conduit Schedule 40: Type 1220. All wires under paving shall be installed in PVC conduit, or sleeves as All Ring—tite pipe indicated on the working drawings, shall be minimum Class 160 PSI Johns—Manville PVC pipe with ring—tite joints.

All ring—tite joints shall be sealed with rubber rings as provided by the manufacturer. All pipe joints shall provide for expansion and contraction. Provide waterproof plastic marker tags for all remote control valves. Tags shall indicate the respective controller station of each valve and "purple-alert" notification if .1 The quick coupling valve shall be in the Irrigation Legend and have a two piece type capable of having a discharge rate of 15 gallons per minute (G.P.M.) with a pressure loss not to exceed 4.3 pounds per square inch (PSI).

2 The valve body shall be constructed of heavy cast brass. The cover shall be a durable, protective self-closing rubber cover. When so specified, the cover shall be a .3 The valve shall be opened and closed by a brass key of the same manufacturer having a 3/4" (MNPT) and 3/4" (FNPT) outlet. The valve throat shall have a keyway .4 All splices shall be made using Scotch Lok Unipack waterproof sealing packets, Pen-Tite Connectors, or equal. An expansion loop of 18" shall be provided at each wire .6 Use a continuous wire between controller and remote control valves. Under no circumstances shall splices exist without prior written approval. Any splices allowed shall be .8 Provide spare orange wires from controller to the end each mainline branch in system as shown on the plans to be used as required as a spare. Label these wires as 1. Valve boxes shall be used as durable, rigid enclosures for valves or other irrigation system components requiring subsurface protection for installation or maintenance. 2. The standard rectangular body shall have knock—outs molded into the sides that can be readily removed. The knock—outs shall remain an integral part of the body unless 3. The valve box shall have corrugated sides. Rectangular valve boxes shall have a grooved feature on one side, just below the lid at the top of the box, for inserting a shovel blade or other prying tool to provide easy lid removal. This is useful following compaction of the surrounding soil or after the eventual accumulation of thatch over b. Boxes shall have a stepped feature on the bottom that securely interlocks two boxes together when mated bottom-to-bottom for use in a deep installation. 6. There shall be no hole in the valve box lid unless the bolt—hole knock—out is removed in order to use the locking bolt. Lids shall be green unless otherwise stated and 7. edges to minimize potential damage from lawn equipment. Lids shall be clearly marked with the words "Irrigation Control Valve" molded onto the top. Lids shall have a Layout irrigation systems and make minor adjustments required due to differences between site and drawings. Where piping is shown on drawings under paved areas, but running parallel and adjacent to planted areas, install the piping in the planted areas. All work called for on the drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications. The drawings are essentially diagrammatic. The size and location of equipment and fixtures are drawn to scale where possible. Provide offsets in piping and changes in equipment locations as necessary to conform to present and future structures and to avoid obstructions or conflicts with other work.

Coordinate the installation of all sprinkler materials, including pipe, with the landscape drawings, to avoid interfering with the trees, shrubs, other planting and other 3.3 TRENCHING .1 Dig trenches and support pipe continuously on bottom of ditch. Lay pipe to an even grade. Trenching excavation shall follow layout indicated on drawings to the depths below finished grade and as noted. Where lines occur under paved areas, these dimensions shall be considered below subgrade. 2 Provide minimum cover of 24 inches on pressure supply lines 4 inches and larger. 3 Provide minimum cover of 18 inches on pressure supply lines 3 inches and smalle .4 Provide minimum cover of 18 inches for wires. 5 Provide minimum cover of 12 inches for non-pressure lines. 6 Provide minimum cover of 24 inches for all pipe sleeved under paying. ' Provide horizontal clearance between pipes per Trenching/ Sleeving Detail. .8 Where it is necessary to excavate adjacent to existing trees, the Contractor shall avoid injury to trees and tree roots. Excavation in areas where 2 inch and larger roots occur shall be done by hand. All roots 2 inches and larger in diameter shall be tunneled under and shall be heavily wrapped with wet burlap to prevent scarring or drying. Where trenching machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making a clean cut through the roots. Roots 1 inch and larger in diameter shall be painted with two coats of Tree Seal or approved equal. Trenches adjacent to trees shall be closed within 24 hours. .1 Initial backfill on all lines shall be of fine granular material with no foreign matter larger than 1 inch in size. .2 Backfill shall be tamped in 4 inch layers under the pipe and uniformly on both sides for the full width of the trench and the full length of the pipe. Materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent .3 Flooding in lieu of tamping is not allowed without specific prior approval. .4 Under no circumstances shall truck wheels be used to compact soil. .5 Provide sand backfill a minimum of 4 inches over and under all piping under paved areas. 1 Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. No hydraulic driving is permitted under asphaltic concrete pavement. Cutting or breaking of existing pavement is not permitted. Carefully inspect all pipe and fittings before installation, removing dirt, scale, and burrs and reaming; install pipe with all markings up for visual inspection and verification. .4 Exercise care in handling, loading, unloading, and storing plastic pipe and fittings; store plastic pipe and fittings under cover until ready to install; transport plastic pipe on a vehicle with a bed long enough to allow the pipe to lay flat, avoid undue bending and any concentrated external load. .5 Remove all dented and damaged pipe sections 6 Contractor shall install concrete thrust blocking at all changes of direction and terminal points of pressure pipe when indicated in plans. ' All lines shall have a minimum clearance of 4 inches from each other and 6 inches from lines of other trades. .8 Parallel lines shall not be installed directly over one another. .9 PVC pipe shall be snaked in a manner which will provide for expansion and contraction as recommended by the pipe manufacturer installed label up. .10 In solvent welding, use only the specified primer and solvent cement and make all joints in strict accordance with the manufacturer's recommended methods; allow solvent welds at least 15 minutes setup time before moving or handling and 24 hours curing time before filling. .11 360 degree applicators shall be used to apply primer and solvent on sizes 2-1/2 inches and larger. .12 Centerload all plastic pipe prior to pressure testing. .13 All threaded plastic to plastic connections shall be assembled using Teflon tape. .14 For plastic to metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic to metal connections, except where noted .15 Main lines shall be tested in place before backfilling for a period of not less than four (4) hours and shall shown no leakage or loss of pressure. During the test period, minimum test pressure, at the highest point of the section being tested, shall be 150 pounds per square inch. Center filling of pipe lengths is allowed. 3.6 <u>RING-TITE PCV INSTALLATION</u> .1 Except as may be noted in other parts of the Specifications or on the drawings, installation of Ring-Tite pipe and connecting fittings shall be outlined in manual as furnished by pipe manufacturer, or as set forth by the Johns-Mansville Company Manual #772-62A. This shall include, but not be limited to, the installation of the pipe at the proper depth and the correct location of concrete thrust blocks of adequate sizes. Contractor shall make available the services of the manufacturer's representative at the start of the installation and during construction. 3.7 <u>SPRINKLERS</u> .1 All nozzles on sprinklers shall be tightened after installation. All sprinklers having an adjustment stem shall be adjusted on a lateral line for the proper radius, diameter and/or gallonage per approval of the Client's Representative. Sprinkler heads and risers shall be installed according to details for final approval. .3 Spacing of heads shall not exceed the maximum indicated on the drawings. In no case shall the spacing exceed the maximum recommendation by the manufacturer. Remote control valves shall be adjusted in order that a uniform distribution of water is applied by the sprinkler heads to the planting areas for each individual valve system. .2 Quick coupling valves shall be set approximately 12" from walks, curbs, header boards, or paved areas where designed. Refer to installation detail. Place quick couplers in 3.9 <u>VALVE_BOXES</u> Valve boxes shall be set one inch (1") above the designated finish grade in lawn areas and three inches (3") above finish grade in ground cover areas. Valve boxes installed near walks, curbs, header boards, and paving shall not abut those items. Top surfaces shall be flush with, and perpendicular to, items listed above. Valve boxes shall be installed in shrub planters, not in turf areas whenever possible, unless otherwise approved. 3.10 <u>CONTROLLER LOCATION AND INSTALLATION</u> The automatic controller shall be installed at the approximate location shown on the Plan, unless otherwise instructed by the Client's Representative. .2 All local and other applicable codes shall take precedence in connecting the 120 volt electrical service to the controller. Client shall provide power to controller. Irrigation Contractor shall complete hook—up to controller. .3 There shall be adequate coverage of earth (18" minimum) over the 24-volt control wire. Bundle and tape wires at 10' O.C. and install adjacent to mainline 3.11 BACKFLOW PREVENTER .1 The backflow prevention units shall be installed as shown on Plans and Details. Backflow prevention units shall be installed per local codes including certification. 3.12 <u>ASSEMBLIES</u>

.2 Install the backflow assembly at the height required by local codes. .3 Routing of pressure supply lines as indicated on drawings is diagrammatic. Install lines (and various assemblies) to conform with the details on the plans. .4 Brass pipe and fittings shall be assembled using Teflon dope, or equivalent, applied to the male threads only. This is also true of plastic pipe and threaded fittings. .1 After all new sprinkler PVC piping, poly tubing and risers are in place and connected, all necessary work has been completed and prior to the installation of sprinkler heads, control valves shall opened and a full head of water used to thoroughly flush out the system.

.1 Install all assemblies specified herein according to the respective detail drawings or specifications, using best standard practice.

2.2 At the conclusion of a system flushing, the heads shall be installed and tested for operation in accordance with design requirements under normal operating pressure Contractor shall verify head pressures with pilot tube and adjust valve to correspond with design pressure. 3.14 ADJUSTING THE SYSTEM

.1 Contractor shall adjust valves, align heads, and check coverage of each system prior to coverage test. .2 If it is determined by the Client's Representative that additional adjustments or nozzle changes will be required to provide proper coverage, or reduce overspray, all necessary changes or adjustments shall be made prior to any planting at no additional cost to the Client.
 .3 The entire system shall be operating properly before any planting operations commence. .4 Contractor to adjust all bubblers, emitters, sprayheads and driplines to assure no flooding occurs causing erosion to the slopes. Any erosion caused by incorrectly adjusted irrigation or controller shall be repaired by the contractor at no additional cost to the Client.

3.15 COVERAGE TEST .1 When the sprinkler system is completed, perform a coverage test in the presence of the Client's Representative to determine if the water coverage for planting areas is complete and adequate. The Contractor shall furnish, at his or her cost, all materials and perform all work required to correct any inadequacies of coverage due to deviations from plans, or where the system has been willfully installed when it is obviously inadequate if not brought to thee Client's attention before installation. This test shall be accomplished before planting begins 3.16 <u>HYDROSTATIC TEST</u>

.1 All Hydrostatic tests shall be made only in the presence of the Client's Representative, or other duly authorized representative of the Client. No pipe shall be backfilled until it has been inspected, tested, and approved in writing. Pressure supply lines shall be tested under a hydrostatic pressure of 150 pounds per square inch for a period of four

3.17 <u>COMPLETION CLEANING</u> .1 Upon completion of each phase of work, Contractor shall smooth all ground surfaces; remove excess materials, rubbish, debris, etc.; sweep adjacent streets, curbs, gutters, walkways, and trails; and remove construction equipment from the premises

* * * * END OF SECTION * * * *

JNDERGROUND SERVICE ALERT

IRRIGATION SYSTEM SPECIFICATIONS

Refurbishment/modifications to existing irrigation systems

warranty on any product offered for use.

Client's Representative for approval.

Point of connection.

1 Inspections will be required for:

Coverage test.

Final acceptance.

Pipe depth.

Sprinkler control valves.
Quick coupling valves
Routing of control wires.

.4 Show locations and depths of the following items:

Related equipment (as may be directed)

Written proof of available water pressure at the point—of—connections.

Routing of sprinkler pressure lines (dimension maximum 100 feet along routing). Gate valves.

Pre-job conference/ walk- 120 hours (5 working days)

Final Inspection _ 72 hours (3 working days) Final Acceptance – 72 hours (3 working days

shall be provided as needed for all open trenches.

valve/zone location clearly defined

adjust or maintain said sprinkler head

of the project that this service has been rendered.

materials used shall carry a manufacturer's quarantee of one (I) year minimum.

.3 Guarantee shall be submitted on Contractor's own letterhead as follows:

satisfaction of the Client's by the Contractor, all at no additional cost to the Client's.

PROJECT: _____ LOCATION: _____

1 Pressure supply lines larger than 4" shall be Class 200 gasketed (Ring-Tite) PVC pipe 2 Pressure supply lines 2 to 4 inches in diameter shall be Class 315 solvent weld PVC.

3 Pressure supply lines 1-1/2 inches in diameter and smaller shall be Schedule 40 solvent weld PVC.

8. All fittings shall bear the company's name or trademark, material designation, size applicable

I.P.S. schedule, and NSF seal of approval.

.9 All threaded nipples shall be standard weight Schedule 80, with molded threads.

.4 All non-pressure lines shall be PVC-size and type per Irrigation Legend with no pipe smaller than 3/4" being used. .5 Pressure supply line from point of connection through backflow prevention unit shall be per local code.

ADDRESS:

.1 Materials or equipment installed or furnished that does not meet the Client's standards will be rejected and shall be removed from the site at no expense to the Client's.

.1 All pipe shall be extruded of an improved PVC virgin pipe compound featuring high tensile strength, high chemical resistance and high impact strength. In terms of the current ASTM Standard D-1769 or D-2241, this compound shall meet the requirements of cell classification 12454B for pipe and 13454B for fittings. This compound

.2 All pipe must bear the following markings: Manufacturer's name, nominal pipe size, schedule or class, pressure rating in P.S.I., and NSF (National Sanitation Foundation).

The manufacturer shall also mark the date of extrusion on the pipe.

3 Solvent cement joints for plastic pipe and fittings shall be made as prescribed by the manufacturer. The high chemical resistance of the pipe and fitting compounds specified in the foregoing sections makes it mandatory that an aggressive primer, which is a true solvent for PVC, be used in conjunction with a solvent cement designed for the fit of the pipe and the fittings of each size range specified.

4 Each pipe installer expected to make solvent joints shall receive instructions in the proper assembly of such joints from the representative of either pipe, cement, or

All fittings shall be standard weight schedule 40. At the purchaser's discretion, contract preference may be given those suppliers able to furnish all types of fittings required under this contract from a single manufacturer, in order that responsibility will not be divided in warranty claim situations.
 All fittings shall be injection molded of an improved PVC fittings compound featuring high tensile strength, high chemical resistance, and high impact strength. In terms of the current ASTM Standard D-1784-69, the compound must meet the requirements described in cell classification 13454B. Where threads are required in plastic

fittings, these shall be injection molded also. All tees and ells shall be side gated.

7 Apply primer and solvent on all pipe sizes and fittings. Primer solvent on both female and male ends. All solvent cementing of plastic pipe and fittings shall be a

two_step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel_like.

fitting manufacturer before starting the job, unless he has been previously instructed on recommended solvent cementing procedures by a competent representative of the

Pressure supply line installation and testing- 72 hours (3 working days)

System layout and coverage Tests— 72 hours (3 working days)

"Landscape Irrigation" as indicated on the drawings and/or herein specified. The work includes but is not limited to:

.1 Record accurately on one set of contract drawings all changes in the work constituting departures from the original contract drawings.

Final inspection/ start of maintenance. Final inspection shall be performed by the Client's Representative

When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils in thickness.

FOR SPRINKLER IRRIGATION SYSTEM

.5 Any settling of trenches which may occur during the one_year period following acceptance shall be repaired to Client's satisfaction by the Contractor without any additional expense to the Client's. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

Contractor shall notify the Client's Representatives in advance for requesting all inspections as follows:

Installation of piping, fittings, sprinkler heads/ water emission devices, controllers, valves, wiring, irrigation equipment, sleeving and accessories. Testing and adjustment.

Excavating and backfilling irrigation system work.

1.1 <u>SCOPE OF WORK:</u>

1.2 SUBMITTALS:

1.3 Record Drawings:

1.4 <u>INSPECTIONS</u>

1.5 <u>TURNOVER ITEMS</u>

.1 Controller Charts:

1.6 <u>Guarantee</u>

PART 2- MATERIALS

2.3 PLASTIC PIPE AND FITTINGS

must have a 2,000 psi hydrostatic design stress rating.

2.1 GENERAL

2.2 <u>PIPE</u>

2 Spare Equipment and Accessories

LPS-1

PLANTS AND GROUND COVERS

1.1 GENERAL

.1 Provide trees, plants, ground covers, import soil, wood mulch, tree pruning and equipment as shown and specified. The work includes but is not limited to:

Soil testing and analysis per notes on plans. Trees, shrubs, and ground covers. Planting mixes and amendments.

.4 Stone/Wood mulch and planting accessories. Maintenance. Weed and rodent control.

Pruning of existing trees to remain. .8 Removal of trees/shrubs/concrete per plans.

.9 Product Submittals for plant materials (provide photos of all plants), including but not limited to; tree stakes, root deflector fabric, soil amendments, fertilizers, boulders, rock mulches, etc.

1.2 <u>GUARANTEE:</u>

.1 All trees installed under this contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one (I) year. .2 During the guarantee period, any material found to be dead, missing, or in poor condition shall be replaced by the

as to the condition of the material. Replacement shall be made in accordance with these specifications and the plans. .4 Material and labor involved in replacing plant material shall be provided by the Contractor at no additional cost to the Client.

1.3 <u>INSPECTIONS:</u>

.1 Inspections will be required. The Contractor shall contact the Client Representative at least 72 hours (3 working days) in advance of an anticipated inspection. An inspection will be required at each of the steps listed below:

Contractor within ten (10) days of written notification. The Client's authorized representative shall be the sole judge

Upon completion of fine grading for acceptance of fine grading work prior to installation of irrigation systems. When trees and shrubs are spotted for planting, but before planting holes are excavated. When planting and all other indicated or specified work has been completed.

During application of pre-emergent chemical. At start of plant establishment and maintenance period, current with final acceptance of the project for maintenance by the Client. This acceptance for maintenance will be confirmed in writing by the Client's Representative.

1.4 <u>SUBMITTALS:</u>

.1 The following written certifications are required to be submitted to the Client's Representative upon delivery of the respective materials to the job site:

> Total Quantity of commercial fertilizers by type Total Quantity of import soil, soil amendments and conditioners by type Total Quantity of decomposed granite, stone and wood mulch

.2 The Contractor shall provide to the Client's Representative a complete submittal package of cut-sheets describing all planting materials to be used, including pictures of all plants and boulders as called out in the approved landscape construction documents prior to beginning work. Contractor shall also submit the required soils test results and supply a one pound sample of all mulches and amendments—if different than as specified on plans.

2.1 FERTILIZER, SOIL AMENDMENTS AND CONDITIONERS: Planting Packets: (BEST-PAKS) Controlled-release 12 month fertilizer planter packets having an analysis of 20-10-5 derived from the sources listed in the following guaranteed analysis.

GUARANTEED ANALYSIS Total Nitrogen (N)......20%

Available Phosphoric Acid (P2 05)......10% Derived from calcium phosphate

Soluble Potash (K2 0)......5% Iron (expressed as elemental Fe).....(.9)%

.2 Organic Soil Amendment: Shall be Custom Amendment Mix (WCP33) as available from Earthworks at (951) 782-0260 or approved equal. Material containing pine, or other materials will not be accepted. Provide a 1 pound sample to

the Landscape Architect for approval.

.3 Organic Fertilizer shall consist of Establish as available from Earthworks at (951) 782-0260 or approved equal.

.1 All plants shall be true to name, and one of each bundle or lot shall be tagged with the name and size of plants in accordance with the standards of practice recommended by the American Association of Nurserymen. The root condition of plants furnished in containers shall be determined by removal of earth from the roots of not less than two plants nor more than 2% of the total number of plants of each species or variety except when containergrown plants are from several different sources: in which case, the roots of not less than two plants of each species or variety from each source shall be checked by the Client Representative at his option. The selection of plants to be checked will be made by the Client Representative. All plants rendered unsuitable for planting shall be considered as

samples, and replacements shall be provided at no additional cost. In case the sample plants are found to be defective, the entire lot or lots of plants represented by the defective samples will be rejected. All shrubs supplied by Contractor shall be of the specified standard height and diameter set by the American Standard for Nursery Stock. As soon as the work contract has been executed between the Client and the Contractor, Contractor shall immediately make arrangements for ordering all plant materials. Some of the plant materials will require additional

lead time in order to arrive on site to meet any required schedules. 2.3 <u>BACKFILL MATERIAL:</u>

.1 Topsoil shall be free of noxious weed seeds and shall be of a loam characteristic, fertile and friable.

.2 Organic amendments shall consist of Custom Amendment Mix (WCP33) as available from Earthworks at (951) 82-0260 or approved equal. Provide a 1-pound sample to the Landscape Architect for approval. .3 Soil used for backfill of planting pits shall be enriched using the following blend per cubic yard: 70% site soil, 30% Custom Amendment Mix (WCP33)

Fertilizers as recommended by the soils testing results 3.1 <u>LANDSCAPE GRADING:</u>

.1 The Contractor shall complete preliminary grading as indicated on the plans, removing existing soil and filling as needed bringing all areas to be landscaped within .1 foot of finish grade after amending. Soil displaced during

planting shall be removed from site if leaving it would impact the finish grade depths. 3.2 <u>SOIL PREPARATION:</u>

.1 All fine grading and all weed control measures shall be completed prior to soil preparation. .2 All landscape areas shall be finish graded to dress out maintain, and/or reestablish grades and flow lines as approved prior to amending the soil. Finish grades will be inspected upon completion. Contractor shall not proceed with planting

work until finish grades have been inspected and accepted by the Client's Representative. .3 Unless otherwise indicated on the plans or soils report, all lawn and flatted ground cover areas shall receive 4 cu. Yards of Custom Amendment Mix (WCP33) and 90 lbs. per 1000 s.f. of Establish rototilled into the top six inches of soil in two directions. WCP33 and Establish available thru Earthworks. (951) 782-0262

3.3 <u>WEED CONTROL MEASURES:</u>

.1 Existing grass and weeds shall be killed with a contact herbicide. Once dead, remove all existing grass and roots and weeds from the site prior to new planting. Pre-germinate all weeds by overhead watering for minimum of once a day for one week. After complete germination—spray with a contact herbicide and remove dead weeds/roots in all planting beds. Root systems shall be removed as needed to guarantee the plant material will not grow back. .2 After planting, prior to any decomposed granite, stone or wood mulch placement, treat all planter areas with a pre-emergent herbicide. If pre-emergent herbicide is not applied prior to the mulch placement, mulch shall be

removed, the herbicide applied and the mulch reinstalled. .3 Any chemicals applied shall be as directed by a licensed Pest Control Agent. This treatment shall be applied at the times recommended by the manufacturer. The Client's Representative shall be given a minimum of 72 hours (3 working days) notice prior to each application. No chemicals shall be applied other than in the presence of the inspector.

3.4 <u>FINISH GRADING:</u>

.1 After completion of all weed removal/soil preparation work the Contractor shall finish grade all planting areas filling as needed or removing surplus dirt, removing rocks and debris over 1 inch in diameter, and floating to a smooth uniform grade. All areas shall slope to drain. Flow lines shall be established to existing drain inlets or swales as shown on the grading plans and as directed by the Client's Representative. .2 When conditions detrimental to plant growth are encountered, such as rubble fill, natural rocky conditions or adverse drainage conditions, notify the Architect and Landscape Architect before planting

3.5 PLANTING:

.1 Trees and Shrubs: The location of each plant is as shown and may be scaled from the plan unless the Landscape Architect designates otherwise. Maintain a distance from all hardscape elements and ground covers of one-half of

the spacing indicated in the planting legend or 1/2 the scaled diameter of the shrub. .2 Plant holes shall be dug to size as indicated in the drawings. Before trees or shrubs are set in the holes, a water test should be made as follows:

.1 All plant holes shall be filled to the brim with water and allowed to drain before any planting is done. If water does not drain out of hole within 24 hours, this fact must be brought to the attention of the Client's Representative so that corrections can be made. Correctional work shall be considered as an extra, at additional

.2 Soil surrounding planting pit shall be in a friable condition and moist to a depth of 8". Distribute backfill uniformly throughout the entire depth of the plant hole without clods or lumps. After the planting holes have been backfilled, jet water into the backfill with a pipe or tube inserted into the bottom of the hole until the backfill material is saturated for the full depth. If the backfill material settles below this level, add additional backfill to the required level. If a plant settles deeper than shown, replant it at the required level.

.3 Backfill using specified soil mix to within 6" of finish grade. At this depth, place the plant fertilizer packs as specified on the drawings. Refer to plans for packet quantities. Complete backfilling to finish grade. 4 Where shrubs and groundcovers are shown to be planted in groups, the outer rows directly adjacent to the nearest roadway or highway fence must be parallel to the nearest roadway or highway fence. Stagger shrubs

and groundcovers in adjacent rows. Adjust the alignment of the plants within the outer rows. .5 Where a vine is to be planted against a wall or fence, plant it as close as possible to the wall or fence. If a vine planted next to a wall is to be staked, stake and tie the vine at the time of planting. A vine planted next to a fence must be tied to the fence at the time of planting.

3.6 MULCHES:

.1 Mulches shall be as specified on the plans. Provide a 2-pound sample of each variety to the Landscape Architect for approval prior to installation if it differs from what is specified on the plans. .2 All mulched areas are to be treated with a pre—emergent chemical prior to the installation of the stone

mulches (see 3.3.2). .3 Following planting, shrub areas shall be re—graded to restore smooth finish grade and to ensure proper surface drainage. Watering shall begin immediately following mulching or as needed during operations to sustain the plant

Decomposed granite mulches to be rolled and compacted as recommended by the manufacturer after installation. After planting, any areas showing erosion shall have an approved erosion control matting installed as needed. Matting shall be equal to Western Excelcior "C-44". Provide samples to the Landscape Architect for approval. Install per

manufacturer's recommendations. .6 When necessary to prevent plant damage from pedestrian traffic during the initial growing stage, the Contractor shall erect temporary protective fencing to be removed at the end of the plant establishment period.

.1 It shall be the Contractor's responsibility to maintain a balanced watering program to ensure proper growth until final

Immediately after planting apply water to each individual shrub. Apply water in a moderate stream in the planting hole until the material around the roots is completely saturated from the bottom of the hole to the top of the .3 Apply water in sufficient quantities and as often as seasonal conditions require, to keep the planted areas moist at

all times, well below the root system of plants. .4 Irrigation: .1 Contractor shall properly maintain the irrigation system. A balanced water program shall be maintained to

ensure proper growth until final acceptance of the work. Plants which cannot be watered efficiently with the irrigation system shall be watered with a hose. All controllers are to have each station individually adjusted on a minimum of a weekly basis. System shall be set considering the application rate each area is capable of receiving. The irrigation system shall operate on short intervals with the cycle repeating at a later time to reduce runoff.

3.8 <u>MAINTENANCE</u>;

.1 All areas landscaped by Contractor under this contract shall be maintained by him for a minimum plant establishment period of not less than forty-five (45) days from the date of written acceptance for start of the

.2 Areas sodded or seeded after October 1st will be accepted the following spring, approximately one (1) month after the start of growing season, May 1st or as determined by the Architect.

3.9 <u>START OF PLANT ESTABLISHMENT:</u> .1 Criteria for start of plant establishment period:

.1 The plant establishment period shall not start until all elements of the project that impact the landscape are completed in accordance with the contract documents.

Permanent power to the controller shall be established. The plant establishment period for the project shall not begin until the Project Inspector has approved the installation of all materials. .4 Written acceptance by the Client's Representative must be obtained prior to the start of the plant establishment

.5 If the project maintenance fails to continuously meet standards required, the plant establishment period day count will be suspend and will not recommence until Contractor has corrected all deficiencies.

3.10 MAINTENANCE TASKS:

.1 During the contract period provide all watering, weeding, fertilizing and cultivation, and spraying necessary to keep the plants in a healthy growing condition and to keep the planted areas neat, edged, and attractive. All plants planted under the contract shall be pinched and pruned as necessary to encourage new growth and to eliminate sucker growth.

.2 Iron Chlorosis:

.1 After planting and during the plant establishment period in the event that plants exhibit iron chlorosis symptoms, apply FE 138Geigy or equivalent at manufacturers recommended rates.

.3 Replacement Plantings:

.1 During the plant establishment period, should the appearance of any plant indicate weakness, that plant shall be replaced immediately with a new, healthy plant. At the end of the plant establishment period, all plant materials shall be in a healthy, growing condition and spaced as indicated on the plans.

.4 Planting Establishment:

Any planting areas that do not show a prompt establishment of plant material shall be replanted at 10 day intervals until the plant material is established. If a good rate of growth has not been demonstrated within 30 days of first planting, the Contractor shall be responsible to determine the appropriate horticultural practices necessary to obtain good growth. The Contractor shall obtain agronomic soils testing, at their cost, of all areas not showing good growth and shall provide copies of the test results to the Client to verify the appropriateness of all maintenance work performed. If additional soil amendments or fertilizers are needed, up to a maximum 30% beyond the amount specified, such amendments shall be provided by the Contractor at no additional cost to the Client.

.5 Grading And Drainage:

.1 During the plant establishment period all flow lines shall be maintained to allow for free flow of surface water. Displaced material which interferes with drainage shall be removed and placed as directed. Low spots and pockets shall be graded to drain properly. Erosion control netting shall be installed at flow lines and other locations where erosion is evident at no additional cost to the Client, when directed by the Project Inspector.

.6 General Conditions:

Damage to planting areas shall be repaired immediately and throughout the plant establishment period. Depressions caused by vehicles, bicycles, or foot traffic shall be filled and leveled. Replant damaged areas.

All paved areas shall be cleaned and maintained in a neat and clean condition at all times. Any subsurface drains with the project area shall be periodically flushed with clear water to avoid build up of

silt and debris. Keep all drain inlets clear of leaves, trash, and other debris. Throughout the plant establishment period, all plants shall be maintained in a disease and pest free condition at the Contractor's expense. A licensed pest control operator shall be retained by the Contractor to recommend and apply all pesticides, herbicides, and fungicides. Exterminate gophers, moles, and all other rodents, and

repair damage as soon as evidence of rodent activity is noticed. .5 Debris and trash shall be removed from the site daily at a minimum. 3.11 <u>EXISTING TREE CARE PRUNING:</u>

.1 Contractor shall have all existing trees evaluated and pruned by an I.S.A. Board Certified Arborist per "ANSI a330 part1, Pruning", published by the Tree Care Industry Association. Pruning shall remove dead branches, crossing branches and minor "lacing" of the tree canopies. Pollarding of trees is not permitted. Arborist shall meet with the Project Representative prior to any pruning work done to discuss the level of pruning required. One tree of each species shall be pruned for approval and to provide a representation of the pruning to be accomplished on all trees. Pruning shall be accomplished after utilities installation and fine grading but prior plant installation.

.2 All trenching for sprinklers, electrical, or other predominant features should be carefully considered to limit the affect upon the trees. Trenches should be laid out wherever possible to run in lines radiating out from the trunks of adjacent trees as opposed to lines perpendicular to those lines radiating from the trunks. Any necessary trenching within the drip lines shall be done by hand to allow for cutting of any uncovered roots. Wherever possible, trenches could be dug under large roots that are found above the necessary depth of the trenches leaving viable root tissues in place wherever possible. Root ends should be cut smoothly by means of loppers or hand saws. Root pruning shall be followed within 24 hours by a soil drench which includes ROOTSTM concentrate, and Dyna—GrOTM "Grow 7—9—5" or equivalent hydroponically balanced mineral concentrate. ROOTSTM concentrate is to be diluted 50:1 (2 oz. per gal.) and then applied at the rate of 1 gallon (i.e., 2 oz. of concentrate.) per caliper—inch of trunk diameter. If Dyna_GrOTM is the mineral additive used, it can be included with the ROOTSTM solution, in a 750:1 dilution (1 tsp. per gal.). Application shall be made in the presence of the Client's Representative. No roots 1-inch or larger are to be cut without the approval of the owner's representative. See Irrigation Specifications.

.3 All personnel on the site shall abide by the following specifications to avoid damage to the trees:

No vehicles shall be parked or driven within any zone of protection. .2 No materials shall be stacked within any zone of protection. All staging areas shall be at a distance of 10 feet

or more beyond any tree canopy. .3 No concrete slurry, paints or any other liquid construction wastes shall be poured upon the soil surface within 20 feet of any tree. All construction wastes should be disposed of offsite. .4 No objects shall be fastened to or hung from trees, except as needed in the course of pruning or other tree

by the Arborist, 'in collaboration with appropriate agents such as engineers or representatives of the general contractor, the Client, etc. .6 No heavy equipment shall be operated in a manner to produce physical impact with any visible part of any tree

.5 No excavation, trenching or grade changes shall be effected within any zone of protection, except as approved

designated for preservation. .7 No branch removal or clearance pruning of any kind shall be performed except as prescribed or approved by .8 Any construction related damage to trees observed by the Client's Representative shall be reported in writing, with assessment of the dollar value of the damage and recommended indemnification and/or corrective action,

3.12 <u>DEBRIS REMOVAL:</u> 1. Contractor shall remove all trash, weeds and plant debris within the project area and recycle or dispose of in a legal manner prior to applying any stone or wood mulches.

the report to be presented to appropriate representatives of the general contractor and the Client.

3.13 <u>END OF PLANT ESTABLISHMENT PERIOD</u>

.1 When the Contractor believes he has completed the plant establishment period and the entire project is ready for final acceptance, he shall request inspection of the project. The Client's Representative will inspect the project for final acceptance. Deficiencies noted during inspection shall extend the plant establishment period until all are corrected. .2 All planting areas shall show a good rate of growth and shall be well established filled in plantings free of voids. Bare

areas will be unacceptable. .3 Final Acceptance shall occur only upon written acceptance of the project for maintenance by the Client's authorized representative.

3.14 <u>CLEAN UP:</u>

.1 Upon completion of each phase the work, the Contractor shall smooth all ground surfaces; remove excess materials, rubbish, debris, etc.; sweep adjacent streets, curbs, gutters, walkways, and remove construction equipment from the

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REVISIONS

JNDERGROUND SERVICE ALERT

# Authorization to Solicit Construction Bids for the County Line Road Recharge Basin and Turnout Project

JUNE 16, 2025





As the County Line Rd Project is moving into the construction phase, SGPWA is finalizing the Bid Package and working towards advertising bids

# To abide by the Agency's public contract code...

- The Board of Directors must authorize the staff to advertise the bid package for the project
- Choose how many contracts would be awarded for this work

# Staff recommends that this work be done with a single contract

### Tentative Bid Schedule:

- June 23, 2025 Advertise for bids
- July 11, 2025 Deadline for bidder questions
- July 23, 2025 Bid opening
- August 4, 2025 Board consideration of construction contract award

### Recommendation

Authorize staff to advertise construction bids for the County Line Road Recharge Basin and Turnout Project as a single contract, finalize the bid package accordingly, and take all other actions necessary to procure the construction services.